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ABSTRACT

Developed to help people in gathering, compiling, and interpreting data relating to the application of technology to instruction, this handbook provides assistance in the form of standardized terms and definitions and a structure showing the interrelationships of those terms. The handbook is organized to lead logically from an overall definition of educational technology to a classification scheme of terms, then, to the definitions for these terms. The classification scheme is outlined with subdivisions indicated by indentation and a numerical code. In a separate section, the terms are listed again in the order of the classification with complete definitions. Selected units of measure for the classified terms are provided in another section. A glossary listing related terms and their definitions, a brief bibliography, and an alphabetical index to all terms defined in the handbook are included. (Author/PP)

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EDUCATIONAL TECHNOLOGY

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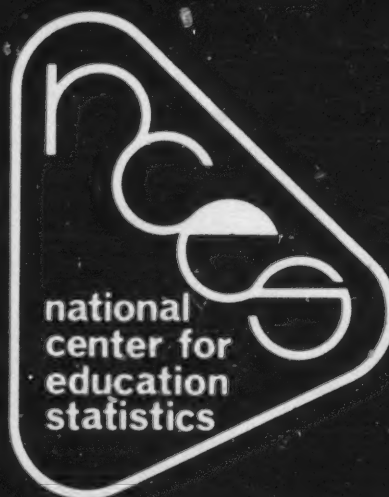
A Handbook of Standard Terminology and a Guide for Recording and Reporting Information About Educational Technology

U.S. DEPARTMENT OF HEALTH,
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State Educational
Records and Reports
Series: Handbook X

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EDUCATIONAL TECHNOLOGY

A Handbook of Standard Terminology and a Guide for Recording and Reporting Information About Educational Technology

**State Educational Records and Reports Series:
Handbook X**

Ivan N. Seibert
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National Center for
Education Statistics

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
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NATIONAL CENTER FOR EDUCATION STATISTICS

"The purpose of the Center shall be to collect and disseminate statistics and other data related to education in the United States and in other nations. The Center shall . . . collect, collate, and, from time to time, report full and complete statistics on the conditions of education in the United States; conduct and publish reports on specialized analyses of the meaning and significance of such statistics; . . . and review and report on education activities in foreign countries."—Section 406(b) of the General Education Provisions Act, as amended (20 U.S.C. 1221e-1).

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FOREWORD

Educational technology has had, and will continue to have, a significant impact on American education. It has helped to close the gap between the information levels inside and outside the classroom; it has broadened the possibilities for delivery of educational programs to learners at all age levels; and it has helped to offset the sometimes adverse effects of geography and economic status on the quality of education available to the student.

With special attention being focused upon alternatives to traditional modes of education, much too little is known or agreed upon concerning the role and impact of educational technology. Without commonly understood and accepted terminology, it is difficult to communicate adequately, to analyze such data as are available, and to provide meaningful information about the field. This handbook is the result of a concerted effort to provide a classified structure of concepts, terminology, definitions, and suggested units of measure in order to better serve modern educational information systems, to assist in planning and decisionmaking, and to help ensure compatible and comparable recording and reporting of educational technology data.

The development of this handbook was based upon the premise that a project of this nature, sure to have a long-range impact on the study and use of educational technology, must involve a broad base of participation. The acknowledgments section indicates the degree to which the membership of numerous appropriate associations contributed to the development of the final document. Since this is a first effort, it will, of course, eventually require revision to recognize the ongoing changes in the concepts, processes, techniques, equipment, and materials which comprise the field of educational technology.

Absalom Simms, *Director*
Division of Intergovernmental Statistics
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CONTENTS

	<i>Page</i>
FOREWORD	iii
Chapter 1—INTRODUCTION	1
THE PURPOSE OF THIS HANDBOOK	1
SOME ASSUMPTIONS ABOUT DATA AND DECISIONS	1
ASSUMPTIONS ABOUT DATA COLLECTION RELATED TO EDUCATION	1
THE ROLE OF NCES IN THE GATHERING AND COMPILING OF DATA AND	
INFORMATION ABOUT EDUCATION	2
HANDBOOK X, EDUCATIONAL TECHNOLOGY	2
The Structure of Handbook X	2
Chapter 2—DEFINING EDUCATIONAL TECHNOLOGY	5
STATEMENT OF DEFINITION	5
COMPONENTS OF EDUCATIONAL TECHNOLOGY	5
LEARNER	6
LEARNING RESOURCES	6
LEARNING RESOURCES DEVELOPMENT FUNCTIONS	6
INSTRUCTIONAL MANAGEMENT FUNCTIONS	7
SUMMARY	7
Chapter 3—CLASSIFICATION OF TERMS ABOUT EDUCATIONAL TECHNOLOGY ..	9
CLASSIFICATION SCHEMES, CATEGORIES, SUBCATEGORIES: SOME LIMITS ..	9
RELATING TO CATEGORIES, SUBCATEGORIES, SUB-SUBCATEGORIES	11
NUMERIC CODING OF CATEGORIES AND TERMS	12
ORGANIZATION OF THE REST OF THIS CHAPTER	12
THE CLASSIFICATIONS OF EDUCATIONAL TECHNOLOGY	12
CLASSIFICATION OF TERMS ABOUT THE LEARNER	13
CLASSIFICATION OF TERMS ABOUT LEARNING RESOURCES	16
MATERIALS	17
DEVICES	20
TECHNIQUES	25
SETTINGS	26
CONTENT	29
STAFF	30
CLASSIFICATION OF TERMS ABOUT LEARNING RESOURCES DEVELOPMENT	
FUNCTIONS	32
RESEARCH	33
DESIGN	35
PRODUCTION	37
EVALUATION	42
LOGISTICS	45
UTILIZATION	46
CLASSIFICATION OF TERMS ABOUT INSTRUCTIONAL MANAGEMENT FUNC-	
TIONS	47
ORGANIZATION MANAGEMENT	48
PERSONNEL MANAGEMENT	49

Chapter 4—DEFINITIONS OF TERMS IN THE CLASSIFICATION STRUCTURE	51
DEFINITIONS OF CLASSIFIED TERMS ABOUT THE LEARNER	51
DEFINITIONS OF CLASSIFIED TERMS ABOUT LEARNING RESOURCES	63
MATERIALS	66
DEVICES	80
TECHNIQUES	100
SETTINGS	108
CONTENT	117
STAFF	127
DEFINITIONS OF CLASSIFIED TERMS ABOUT LEARNING RESOURCES	
DEVELOPMENT FUNCTIONS	132
RESEARCH	132
DESIGN	139
PRODUCTION	143
EVALUATION	175
LOGISTICS	185
UTILIZATION	190
DEFINITIONS OF CLASSIFIED TERMS ABOUT INSTRUCTIONAL MANAGE-	
MENT FUNCTIONS	193
ORGANIZATION MANAGEMENT	194
PERSONNEL MANAGEMENT	198
Chapter 5—UNITS OF MEASURE	203
LEARNER	204
LEARNING RESOURCES	204
Materials	204
Devices	206
Techniques	207
Settings	207
Content	207
Staff	207
LEARNING RESOURCES DEVELOPMENT FUNCTIONS	208
Research	208
Design	208
Production	208
Evaluation	210
Logistics	210
Utilization	210
INSTRUCTIONAL MANAGEMENT FUNCTIONS	210
Organization Management	210
Personnel Management	211
A General Approach to Measurement in Educational Technology	211
ASSESSING EDUCATIONAL TECHNOLOGY	211
GLOSSARY	213
ACKNOWLEDGMENTS	221
BIBLIOGRAPHY	241
INDEX	245

Figures

1 Components of a technological approach to instruction	5
2 Interrelationship of Handbook X and other NCES terminology manuals	10

Chapter 1

INTRODUCTION

THE PURPOSE OF THIS HANDBOOK

This handbook was developed to help people in gathering, compiling, and interpreting data relating to the application of technology to instruction. It provides assistance in the form of standardized terms and definitions and a structure showing the interrelationships of those terms. Properly used, this handbook and other handbooks in this series can enhance a meaningful exchange of data and information. By using standardized terms, data from a variety of sources can be compiled and compared. This handbook has the terms needed for the first step in data collection—standardization.

In the development of this handbook a number of professionals have agreed on a common set of assumptions about the nature of data collection, the field of instruction, the application of technology to the instructional process, and the role of the National Center for Education Statistics (NCES) in the collection and dissemination of data and information in education. To better understand this handbook and its purposes, it is important to look at these assumptions.

SOME ASSUMPTIONS ABOUT DATA AND DECISIONS

Decisionmaking should be a rational process and, insofar as possible, it should be done on the basis of the relevant, valid information currently available. This presumes that valid and reliable data can be collected and organized, and that conclusions and implications can be drawn from the organized data. These conclusions are called information.

In order for different data to be organized and compared, there must be some standardization of the data gathered. The standardization must include the terms used, the definitions for those terms, the classification system used to classify the data, and the units of measure used with the terms. This is particularly critical if data and information from different sources are to be compiled and/or compared.

ASSUMPTIONS ABOUT DATA COLLECTION RELATED TO EDUCATION

There are currently over 16,000 elementary and secondary school districts in the United States. There are over 2,700 institutions of higher education. There are over 8,000 institutions offering postsecondary occupational programs. This does not include any number of organizations and institutions with programs of specialized training and instruction—such as military training schools, government agency training programs, correspondence schools, training programs in large corporations and businesses. All of these various institutions and organizations have at least three elements in common.

- 1) someone to be taught (a learner);
- 2) something for the learner to learn (content); and
- 3) some way of bringing the learner and the content together so that the learner can master the content (solution).

There are variations within these three elements. There are also major differences in the institutions, organizations, and individuals involved in instruction. However, all of the organizations, agencies, institutions, or individuals—whether Marine Corps boot camp, child development center, or free university—have the same basic purpose, instruction. It goes without saying that to accomplish instruction, all the institutions must allocate some effort in the form of time, money, staff, and space.

Since there is a common core of elements of instruction and since there are over 26,000 easily identifiable institutions with instruction as their central purpose, there is a strong reason to believe that much of the decisionmaking involves similar information in each institution. (This is especially true when the institutions have similar learners, content, and/or techniques of instruction.) There is ample reason to believe that 1) information gathered at one institution could be of assistance to another institution, and that 2)

agencies dealing with a group of similar institutions could use a compilation of information from various sources. This reinforces the previously stated need for standardization of data and information.

THE ROLE OF NCES IN THE GATHERING AND COMPILING OF DATA AND INFORMATION ABOUT EDUCATION

The National Center for Education Statistics (NCES) has a mission to provide and interpret comprehensive statistics about the state of education in the United States. In addition to this role, NCES has additional mandates calling for conducting and publishing specialized analyses and for providing assistance to State and local education agencies in improving their statistical activities.

To fulfill its role, the National Center for Education Statistics has a number of programs, ranging from regular data collection to the development of materials and techniques which facilitate the compilation and comparison of statistical information. One of these programs is the development and periodic revision of manuals of standardized terminology. One set of handbooks, the State Educational Records and Report Series, is primarily directed toward elementary and secondary education and has sprung from a long-expressed need by educators to have standardized statistical information available to them.¹ The first handbook in this series dealt with a common core of general information related to education. Like the handbooks which followed it, that handbook stressed standardized terms and definitions, along with a classification scheme and coding structure for the terms.

HANDBOOK X, EDUCATIONAL TECHNOLOGY

This handbook, dealing with the application of technology to education, is the 10th in the series.² As with the other handbooks developed in the past two decades, this topic was chosen to reflect the needs that resulted from changes in the field of education. As the handbook series grew, there was also a growing

recognition of the interrelationship of the various aspects of an educational program. That recognition is reflected in this handbook. When technology is applied to education, the interaction of the various elements is critical. Therefore, the major elements of instruction must be accounted for in this handbook—especially when they are the subjects of other handbooks in the series.³

The Structure of Handbook X

This handbook is organized to lead logically from an overall definition of educational technology to the classification scheme of terms, then, to the definitions for these terms. Additional supporting material follows the terms and their definitions. Specifically, the parts following this overview (chapter 1) are:

Chapter 2, Defining Educational Technology, which briefly explains what the major elements of educational technology are, what their interrelationships are, and how they form the basis of the classification system used in this handbook.

Chapter 3, Classification of Educational Technology Terms, which takes those major elements identified in chapter 2 and further subdivides them, assigning specific terms for each subdivision and code numbers for each term.⁴

The definition and explanations of these terms are omitted from this chapter so that the reader can get a quick overview of the classification scheme, the terms in it, and the coding structure.

Chapter 4, Definitions of Classified Terms, which gives a specific definition for each term in chapter 3. The definitions should help to clearly identify the term for the purpose of data collection and should help to keep the term distinct and separate from other related terms and definitions. The terms and definitions are given in the same order as in chapter 3 for easy use of particular subdivisions in the classification scheme.

¹ The need in this area was noted early in the century in correspondence from educators and in meetings in the U.S. Office of Education.

² Handbooks in the State Educational Records and Report Series are designated by Roman numerals. This handbook, X, is the 10th in the series. When a handbook is revised the number remains the same but the letter "R" is added after the Roman numeral. Thus, handbook IVR is the revised edition of the fourth handbook in the series.

³ A complete list of the handbooks is found in the bibliography used in the development of this handbook and their relation to the classification scheme is found on p. 9 at the beginning of chapter 3.

⁴ The coding system is more fully explained on p. 11 at the beginning of chapter 3.

Chapter 5, Units of Measure for Classified Terms, which provides selected units of measure for the classified terms in the previous two chapters.

Glossary, which lists related terms (but not the classified terms in chapters 3 and 4) and their definitions. Terms in this section are arranged in alphabetical order.

Acknowledgments, which lists those individuals and organizations which have assisted in the development and review of the handbook, along with a brief description of the development and review process.

Bibliography, which lists some basic references dealing with educational technology.

Alphabetical Index, which contains all of the classified terms in chapters 3 and 4, all the terms appearing in the glossary, major terms referred to in chapters 1, 2, and 5, and any terms referred to in the definitions appearing in chapter 4 or the glossary.

This handbook is designed to assist its users in gathering data and information about elements of educational technology. It can serve as a reference tool for researchers, statisticians, and others who gather and interpret data about educational technology.

Chapter 2

DEFINING EDUCATIONAL TECHNOLOGY

STATEMENT OF DEFINITION

The definition of educational technology¹ that is used in this handbook is taken from the following longer definition statement developed by the Association for Educational Communications and Technology:²

Educational technology is the field involved in the facilitation of human learning through the systematic identification, development, organization and utilization of a full range of learning resources and through the management of these processes. It includes, but is not limited to, the development of instructional systems, the identification of existing resources, the delivery of resources to learners and the management of these processes and the people who perform them.

The application of technology to any field involves a systematic approach to practical problems. Unfortunately, there is a tendency to define this approach solely in terms of the hardware and software used. From this perspective, educational technology is simply the sum total of all the educational media used, such as computers, computer programs, audiotapes, audiotape recorders, and television. Nevertheless, educational media represent only one element of a technological approach. A reliance on differentiated staffing and the development of specialized techniques are included in other elements. The focus of educational technology is on organizing and integrating a number of such elements to facilitate learning. Toward this end, educational technology draws on relevant research from a number of different fields including

psychology, communications, information processing, and electronics.

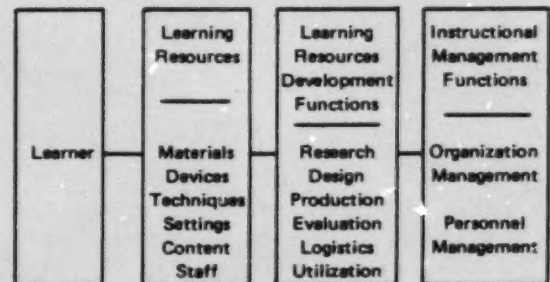
One prominent example of educational technology is the use of computer-assisted instruction (CAI). A working computer operation demands a complex man-machine system. The picture of a student interacting with a computer terminal only hints at the nature of this complexity. The entire development of a CAI lesson reflects it; from the initial decisions regarding objectives and content sequence, through the programming of the lesson in computer language, to the extensive testing involved in determining the overall effectiveness of the lesson.

In short, technology represents a special approach to conceptualizing problems and structuring their solutions. In terms of education, this approach involves analyzing how a number of components interact in a specific situation. The analysis of this interaction, in turn, becomes a basis for developing new instructional components or systems or for redirecting the existing ones.

COMPONENTS OF EDUCATIONAL TECHNOLOGY

As figure 1 indicates, there are four major components of a technological approach to instruction: *the Learner, Learning Resources, Learning Resource Development Functions, and Instructional Management Functions*. A brief description of each of these components follows, with more detailed information provided in chapters 4 and 5.

Figure 1.—Components of a technological approach to Instruction



¹ In this handbook, the terms "educational technology" and "instructional technology" will be used interchangeably to refer to a systematic approach to the overall problems of teaching and learning. The use of technological concepts and inventions in other aspects of educational life (such as school lunch and transportation programs) is not discussed here.

² Association for Educational Communications and Technology, "The Field of Educational Technology: A Statement of Definition," *Audiovisual Instruction*, 1972, 17 (8) pp. 36-45.

LEARNER

The focus of educational technology is the learner and his needs. Understanding the specific nature of these needs is essential to providing effective instruction. Consequently, information about learners—their levels of performance, aptitudes, background experiences, and other characteristics—is critical to a technological approach. Such information influences any number of instructional decisions, from the selection of objectives and the pacing of a lesson to the nature of student evaluation in a given course.

LEARNING RESOURCES

Every field employs resources of various kinds to accomplish its objectives. In educational technology, resources are used to promote learning. There are six major categories of learning resources: *materials, devices, techniques, settings, content, and staff*.

Materials—the supplies that are involved either in the process of instruction or in the reproduction, transmission, or display of instructional information. Examples include audiotapes, computer cards, spirit duplication supplies, videodiscs, photographic film, motion pictures, books, and realia.

Devices—the equipment that is used to facilitate the use, production, reproduction, transmission, and display of instructional materials. Included in this category are items such as audio consoles, computer terminals, diazo copiers, television cameras, exposure meters, dissolve controls, and microprojectors.

Techniques—the specialized procedures used in transmitting instruction. Techniques can be built into materials or they can structure the ways the materials are used. A sampling of such techniques would include peer tutoring, computer-assisted instruction, the open classroom approach, and problem solving.

Settings—the physical structures and spaces required for instructional purposes and for those services directly supporting instruction. In this context, settings include classrooms, learning resource centers, field test stations, auditoriums, curriculum laboratories, and motion picture studios.

Content—the subject-matter areas represented in a majority of the instructional programs across the

country. These include subject-matter areas in elementary, secondary, postsecondary, and higher education.

Staff—the assignments of personnel involved in instruction and instructional support. Staff assignments are *not* specific job titles. This category indicates the classification of the major activities involved in a position. For example, a supervisory assignment entails directing staff members and managing a particular function, program, or supporting service. Other examples include teaching assignments, curriculum specialist assignments, teaching assistant assignments, and computer technical assignments.

Once the resources have been identified, it is necessary to understand how the field works with these resources to accomplish its objectives.

LEARNING RESOURCES DEVELOPMENT FUNCTIONS

Educational technology emphasizes the "systematic identification, development, organization, and utilization of a full range of learning resources" to facilitate learning. This broad approach can be broken down into six separate functions: *research, design, production, evaluation, logistics, and utilization*.

Each of these functions relates to each of the six learning resources. Starting with the research function as an example, it is possible to identify the research function as it relates to materials, devices, techniques, settings, content, and staff assignments. A similar list could be drawn up for each of the other functions.

The resulting list of activities reflects the wide range of concern within the field. Not all of these activities, however, would be the sole responsibility of educators. The production of settings, for example, is the concern of building construction. Consequently, the focus of this handbook is only on those activities which are most representative of education.

Certainly, the development of learning resources is only one dimension of the total development process. Educational technology is also involved in the development of entire systems of instruction and their support systems. Activities related to the development of entire systems are found in the section on Instructional Management (page 47). The Learning Resources Development Functions focus on activities related to the development of individual resources.

Research—involves the generating and testing of knowledge, theory, and research methodology related to learning resources. Research develops a body of knowledge which, in turn, becomes a basis for decisionmaking in other functions.

Design—relates to the development of the specifications used in the production of learning resources. These specifications are based on relevant research and data related to a number of selected variables. This handbook particularly stresses the design of materials and techniques.

Production—refers to the creation or manufacture of resources which meet design specifications. The discussion in this section centers on the production of materials.

Evaluation—involves the assessment of learning resources according to specified criteria. The ultimate concern of evaluation is to provide reliable information for decisionmaking in the other functions.

Logistics—relates to the overall distribution of resources for use in learning situations. The discussion here focuses on the distribution of materials and devices.

Utilization—refers to the systematic use of learning resources as part of a total strategy to facilitate learning.

Understandably, there needs to be a great degree of coordination among these six functions. Design specifications are of little value if they are ignored as input for production. Research findings need to be properly channeled to have an effect on decisionmaking. Further, a given system or whatever level (classroom, school, school system, district, etc.) may not be equally involved in all functions. In such case, it will need to interface with other systems. All of this underscores the need for an overall management function.

INSTRUCTIONAL MANAGEMENT FUNCTIONS

Management focuses on directing the activities of a system toward specified goals. It is at this point that the overall development and operation of the system is planned, monitored, and as necessary modified. There are two principal management functions; *organization management* and *personnel management*.

Organization Management—refers to the general regulation, direction, and control of activities which are systemwide, and not confined to any one unit or subsystem.

Personnel Management—involves the coordination and supervision of staff members within the system.

The concept of management is critical in educational technology. A systematic approach requires a concentration of planning in the early stages of the system's development. The planning for television, for example, should occur at the same time that the initial decisions are made regarding course content. Such concentrated planning makes it more feasible to rely on a central planning group than on separate individuals. Consequently, a team of professionals—content experts, curriculum developers, classroom teachers, television teachers, and production specialists—shares the decisionmaking, and each person then carries out his respective responsibilities.

Traditionally, the majority of instructional decisions have been made at the classroom level. In contrast, a technological approach shifts the balance of decision-making from the classroom level to the curriculum planning level. The teacher's role is by no means eliminated in this process. Instead, the teacher's expertise is drawn on in a different and potentially more effective way.

SUMMARY

Our starting point is a comprehensive definition of educational technology. This provides a base for identifying, organizing, and defining the various elements of the field. Working from this base, the following chapter (3) offers a classification scheme for educational technology.

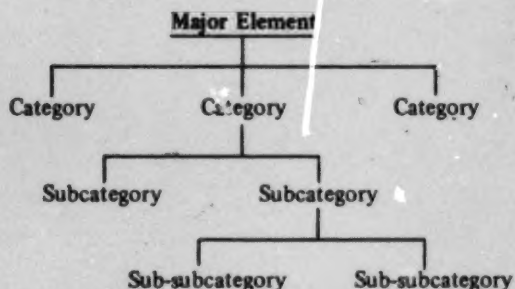
Chapter 3

CLASSIFICATION OF TERMS ABOUT EDUCATIONAL TECHNOLOGY

Chapter 2 gave a definition and a model for educational technology. This chapter classifies the major elements of the definition and model and then subdivides those elements. Each subdivision (or subcategory) is labeled with a term different from any other term used in the classification system. In this way, terms and categories are exclusive of each other.

CLASSIFICATION SCHEMES, CATEGORIES, SUBCATEGORIES: SOME LIMITS

If a major element, such as the learner or learning resources, can be divided into categories and those categories can be divided into subcategories then the subcategories can be divided further into sub-subcategories. Graphically represented:



The sub-subcategories can be broken down even further with each subdivision becoming narrower and more specialized. There are some theoretical limits involved in breaking down categories. Long before we reach those, however, there is a more practical question; i.e., "How big should this handbook be?" There are practical limits for subdivisions in the field of educational technology in this series of handbooks.

For this handbook, some guidelines were established to set limits on the subdivisions used. Briefly, they are:

1. If another handbook in the series goes into depth in a particular topic, this handbook (X) will give only an overview of the topic's major categories

and then refer the reader to the other handbook for additional detail.

2. If no other handbooks cover the topic, this handbook will usually go into greater detail and more classification levels in that topic.
3. If there is general agreement about the structure of or terms for a particular topic, this handbook will go into greater detail than if there is little or no consensus about the topic.
4. This handbook is intended for general use and does not pursue categories and subcategories to their ultimate subdivisions.

These guidelines are pragmatic and are intended to help in making some operational decisions about how much material to include in this handbook. The following comments explain the preceding guidelines in more detail:

1. *Another Handbook in the Series.* As mentioned in the first chapter, there are other handbooks in this series. This handbook draws on those other handbooks, particularly on the handbooks on the learner (VR), on curriculum (VI), and on staff (IVR). The intent is to relate data elements from different handbooks. Some of the major subcategories used in this handbook are identical to those in other handbooks. The section in this handbook on the learner is a good example. Handbook VR goes into detail about the data related to the learner. This handbook (X) uses the same eight major categories used in Handbook VR. Handbook VR, however, has five and six levels of subcategories, whereas this handbook uses only three levels of learner subcategories. Figure 2 depicts the relationship of the educational technology handbook to the other handbooks in the series as well as to other selected NCES publications on terminology. In addition to handbooks in the State Educational Records and Reports Series, this handbook has drawn upon three NCES handbooks in higher

education¹ and the Library Statistics Operations Handbook.²

This handbook does not use an equal amount of information from each of the other handbooks. Since this handbook stresses the applica-

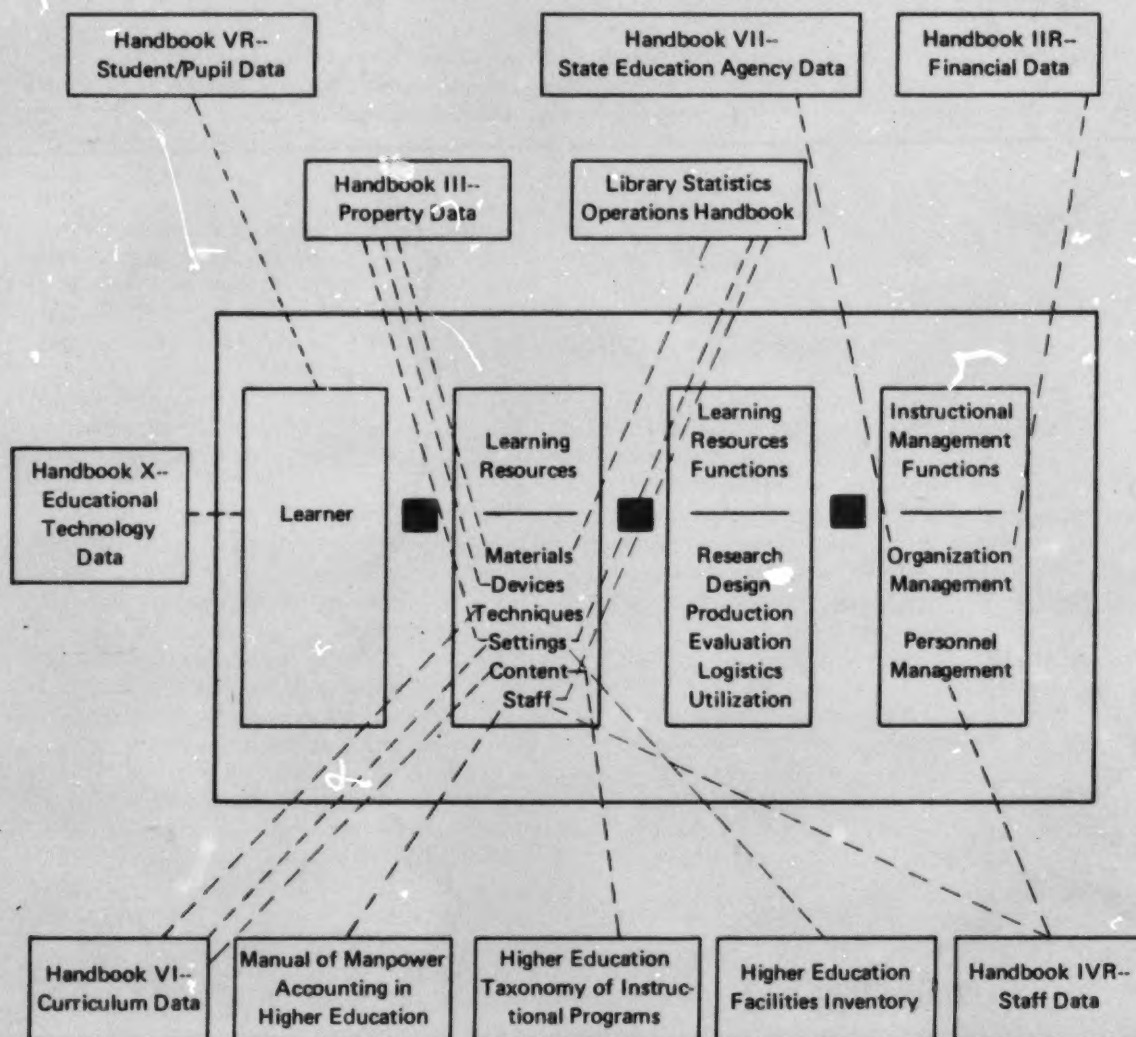
tion of technology to instruction, the more directly a term or a category is related to instruction, the more likely it was to be used in this handbook. For example, the section on the learner in this handbook uses more terms about the learner's mental and physical characteristics than it does on the learner's transportation to school.

There is a note of caution. Education is changing. This fact requires the revision of handbooks from time to time. At any given time, there may be some minor differences among handbooks in the series as revisions occur.

¹Huff, Robert A. and Chandler, Marjorie O. *A Taxonomy of Instructional Programs in Higher Education*, 1970. Minter, W. John. *A Manual for Manpower Accounting in Higher Education* (preliminary edition), 1971. Romney, Leonard C. *Higher Education Facilities Inventory and Classification Manual*, 1972.

²Fraser, Robert W., ed. *Library Statistics Operations Handbook* (field review edition).

Figure 2.—Interrelationship of Handbook X and other NCES terminology manuals



2. *No Other Handbook in the Series.* When there is not another handbook in the series to use as a reference for detailed subcategories, this handbook will give more detail than any of the others. Some sections in this handbook have more categories and terms than other sections. An example of this is the section on the Learning Resource Development Function, Design. Other handbooks in the series do not offer categories for the design of learning resources. In this handbook, categories and subcategories were developed to fill in that gap.³ Future handbooks, developed by Federal agencies, professional associations, or other organizations, may expand some of the specialized areas and detailed subcategories not covered in this series.
3. *Consensus and More Information in a Category.* As time goes on, any specialty area becomes more defined. More people in the field agree on what the specialty should encompass and on how it should be structured. This handbook can go into more detail in areas where practices are firmly established than in areas which are not as structured. One example is the difference in the amount of detail on the production of motion pictures and the production of computer-assisted instruction. Motion picture production terms are more widely known and more generally accepted than terms in computer-assisted instruction. Consequently, this handbook has more terms related to the production and use of motion pictures than it has terms related to computer-assisted instruction. This may change in future handbooks depending on the development and expansion of the computer-assisted instruction field.
4. *General Scope of the Handbook.* As mentioned earlier, there is theoretically no limit to the subdivisions of topics. Specialists in some areas may work on the relationship of the most minute details. Nevertheless, any handbook has practical limits. The limits in this handbook are based on some of the preceding guidelines as well as on the general usefulness of data which might be gathered. The decisions on limits were made with the advice of people representing over 40 organizations related to educational technology.⁴

³ A complete listing of the categories and their subcategories and terms for the Design function begins on p. 35 of this handbook.

⁴ For more information about the process used to develop this handbook and the people and organizations contributing to it, see the acknowledgments, pp. 221-242.

In cases where the user needs to collect data in greater detail than this handbook presents, the user should set up his own subcategories but relate the terms and definitions to those used in the handbooks. Associations and organizations are invited to set up their own subcategories in specialty areas.

These guidelines were set up to help in the collection and organization of data. If a guideline hinders data collection, it should be modified accordingly.

RELATING TO CATEGORIES, SUBCATEGORIES, SUB-SUBCATEGORIES

As the categories become subdivided and terms are assigned to the subdivisions, and those subdivisions are again subdivided and terms assigned, it becomes increasingly difficult to follow the relationship of various subdivisions. To make the process easier, the handbooks in the series use the concept of "level of detail." Each time a term is subdivided, it is broken down to a lower level of detail. Ordinal numbers are assigned to the levels of detail. The first set of categories of the major classification becomes the first level of detail. The subcategories of categories at the first level of detail are called the second level of detail. Subdivisions of the second level are called the third level of detail. Graphically represented:

Major Classification

First Level of Detail (principal segment of the major classification)

Second Level of Detail (division of the principal segment of the major classification)

Third Level of Detail (subdivision of the division of the principal segment of the major classification)

Fourth Level of Detail. . .

And so it can continue to the lowest level of detail which is possible or practical. This handbook has two ways to show the relationship of levels of detail. The first is a visual cue—indentation. In the following term lists, each level of detail is indented from the previous one. This helps the user when the terms appear in sequence in a list. When the terms are not collected in a list, the second cue—numeric coding—helps the user to follow levels of detail.

NUMERIC CODING OF CATEGORIES AND TERMS

Each term which represents a category or subdivision of a category in the classification system is given a code number. The code number indicates the level of detail and the categories of which the term is a subdivision. The number of digits in the code number indicates the level of detail of the term. Assigning code numbers to the levels of detail in the previous example gives us:

- 00. Major Classification (2 digits to the left of the decimal point)
- 00. 00 First Level of Detail (2 digits to the right of the decimal point; a total of 4 digits)
- 00. 00 00 Second Level of Detail (4 digits to the right of the decimal point; a total of 6 digits)
- 00. 00 00 00 Third Level of Detail (6 digits to the right of the decimal point; a total of 8 digits)

(Note: The space between sets of digits is used only to help determine level of detail at a glance. Its use is not required.)

And so it can continue to the lowest levels of detail used. The lowest level of detail in this handbook is the 5th level of detail—10 digits to the right of the decimal point; a total of 12 digits.⁵

The reason for adding the digits in pairs is pragmatic. No category in the handbook series has more than 99 subdivisions. Many do have more than 10. Always adding two digits offers all of the coding numbers currently needed. The following coding is taken from this handbook.

- 01. Learner
- 01. 01 Personal Identification
- 01. 01 01 Name of student

Another example with more levels of detail:

- 02. Learning Resources

⁵ An example of that level is on page 26 of this handbook.

- 02. 04 Setting
- 02. 04 01 Instructional Area
- 02. 04 01 01 Instructional Space
- 02. 04 01 01 02 Special Instructional Space
- 02. 04 01 01 02 08 Science Laboratory

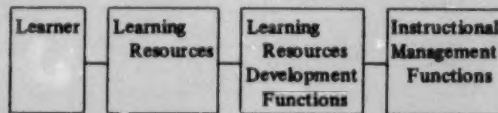
The code numbers used in this book were assigned only for the terms in this book. They do not relate numerically to the codes used in other handbooks nor do they relate to any master coding scheme or any previously established data base.

ORGANIZATION OF THE REST OF THIS CHAPTER

The rest of this chapter is a listing and explanation of the terms in a classification scheme which was developed from the definition and model of educational technology in chapter 2. *This chapter lists only the terms and their code numbers.* The intent of this chapter is to give the reader a quick overview of the organization of the categories and their subdivisions. The next chapter (4) lists the terms in the same order as this chapter (3) but gives a definition for each term. After each term in chapter 3 is the number of the page on which the definition (in chapter 4) is found.

THE CLASSIFICATIONS OF EDUCATIONAL TECHNOLOGY

When the definition of educational technology is shown in model form, the major classifications are apparent.



Adding the major classification codes, they are:

- 01. Learner
- 02. Learning Resources
- 03. Learning Resources Development Functions
- 04. Instructional Management Functions

If we expand the major classifications in the model (as in chapter 2):

Learner	Learning Resources	Learning Resources Development Functions	Instructional Management Functions
	Materials		
	Devices		
	Techniques	Research	Organization
	Settings	Design	Management
	Content	Production	Personnel
	Staff	Evaluation	Management
		Logistics	
		Utilization	

Assigning codes to those categories:

01.	Learner
02.	Learning Resources
02. 01	Materials
02. 02	Devices
02. 03	Techniques
02. 04	Settings
02. 05	Content
02. 06	Staff
03.	Learning Resources Development Functions
03. 01	Research
03. 02	Design

03. 03	Production
03. 04	Evaluation
03. 05	Logistics
03. 06	Utilization
04.	Instructional Management Functions
04. 01	Organization Management
04. 02	Personnel Management

A final note on coding. Each level of detail ends with 99, a pair of digits which indicates that this is the extent of the coding at that level of detail. 99 is always used with the term and category, *Other*. In the example above, 03. 99 would be called "Other Learning Resources Development Functions." The numbers between the last term listed and coded and the "99-Other" category are left vacant for the addition of future terms either by NCES or by a handbook user who has special need to create new categories.

What follows now is the term listing and coding for each of the major classifications (01. through 04.) of educational technology. To maintain standardization in data collection, the terms which follow *must* be used in conjunction with the definitions in chapter 4. For more explicit information on adding needed terms and definitions, see the introductory material in chapter 4, p. 51).

CLASSIFICATION OF TERMS ABOUT THE LEARNER

Code Series 01.00

The items of information—terms and categories—in this section are used to classify data about the various aspects of the learner. The learner is the person for whom instruction is planned and provided by an instructional organization or agency. The definition of the learner applies equally to anyone receiving instruction. There is no distinction in this handbook between the terms *learner*, *student*, and *pupil*. The terms are used interchangeably for data-gathering purposes and include all individuals receiving instruction at all levels, in all fields, from a variety of institutions.

A majority of the terms and definitions in this section are derived from the revised edition of Handbook V in this series.⁶ Handbook VR deals exclusively with items of information related to the learner, whether personal identification or bus route information, whether the learner is in preschool or adult education. The major classification, Learner, 01.00, has eight subdivisions at the first level of detail. They are:

Code	Items of information	Page number section begins
01. 01	Personal Identification	53
01. 02	Family and Residence	54
01. 03	Physical, Health, Sensory, and Related Conditions	55
01. 04	Mental, Psychological, and Proficiency Test Results	57

⁶Putnam, John, *A Handbook of Standard Terminology and a Guide for Managing Student/Pupil Data in Elementary, Secondary, Community/Junior College, and Adult Education, Revised*.

Code	Items of information	Page number section begins
01. 05	Enrollment	59
01. 06	Performance	61
01. 07	Transportation	63
01. 08	Special Assistance and Tuition	63

This is the same basic classification structure as Handbook VR but does not go into as many levels of detail as Handbook VR. For an extensive and complete listing of items of information about the learner, refer to Handbook VR.

Code	Term	Definition page number
01. 01	PERSONAL IDENTIFICATION	53
01. 01 01	Name	53
01. 01 02	Learner Number	53
01. 01 03	Sex	53
01. 01 04	Racial/Ethnic Group	53
01. 01 05	Birth and Age Data	53
01. 01 06	Minor/Adult Status	53
01. 01 07	Family Responsibility	53
01. 01 08	Citizenship Status	53
01. 01 09	Language Considerations	53
01. 01 10	Veteran Benefit Status	54
01. 01 99	Other Personal Identification	54
01. 02	FAMILY AND RESIDENCE	54
01. 02 01	Parents	54
01. 02 02	Responsible Adult of Domicile	54
01. 02 03	Brothers and Sisters Living in the Household	54
01. 02 04	Family Economic Information	54
01. 02 05	Family Social/Cultural Information	54
01. 02 06	Residence Data	55
01. 02 99	Other Family and Residence	55
01. 03	PHYSICAL, HEALTH, SENSORY, AND RELATED CONDITIONS	55
01. 03 01	History of Physical Development	55
01. 03 02	Sensory, Physical, and Related Conditions	55
01. 03 02 01	Vision	55
01. 03 02 02	Hearing	55
01. 03 02 03	Speech and Language	55
01. 03 02 04	Orthopedic Condition	55
01. 03 02 05	Neurological Condition	55
01. 03 02 06	Cardiac Condition	56
01. 03 02 07	Related Physical Conditions	56
01. 03 02 08	Physical and/or Health Handicap	56
01. 03 02 09	Physical Anomalies and Cosmetic Conditions of Potential Emotional Significance	56
01. 03 02 99	Other Sensory, Physical, and Related Conditions	56
01. 03 03	Medical History	56
01. 03 04	Referrals for Physical, Health, Sensory, and Related Conditions	56
01. 03 05	Physical Examination	56

Code	Term	Definition page number
01. 03 06	Physical, Health, and Sensory Impairments	56
01. 03 07	Limitation on Institutional Activities	57
01. 03 08	Emergency Information	57
01. 03 99	Other Physical, Health, Sensory, and Related Conditions	57
01. 04	MENTAL, PSYCHOLOGICAL, AND PROFICIENCY TEST RESULTS AND RELATED LEARNER CHARACTERISTICS	57
01. 04 01	Mental, Psychological, and Proficiency Tests and Inventories	57
01. 04 01 01	Test Identification	57
01. 04 01 02	Form of Test Administration	57
01. 04 01 99	Other Mental, Psychological, and Proficiency Tests and Inventories	57
01. 04 02	Referrals for Learning Activities or for Intellectual, Social, or Emotional Reasons	57
01. 04 03	Special Mental and Psychological Characteristics	58
01. 04 03 01	Gifted and Talented	58
01. 04 03 02	Underachievers	58
01. 04 03 03	Slow Learners	58
01. 04 03 04	Mentally Retarded	58
01. 04 03 05	Seriously Emotionally Disturbed	59
01. 04 03 06	Socially Maladjusted	59
01. 04 03 07	Learners with Specific Learning Disabilities	59
01. 04 03 99	Other Special Mental and Psychological Characteristics	59
01. 04 04	Most Effective Styles of Learning	59
01. 04 99	Other Mental, Psychological, and Proficiency Test Results, and Related Learner Characteristics	59
01. 05	ENROLLMENT	59
01. 05 01	Entrance (Admission)	59
01. 05 01 01	Type of School or Institution Entered	60
01. 05 01 02	Grade Entered or Year in School	60
01. 05 01 03	Location of Learning Activities	60
01. 05 01 04	Location of Instructional Support	60
01. 05 01 05	Type of Program Entered	60
01. 05 01 06	Type of Class (or Instructional Grouping)	60
01. 05 01 07	Principal Medium of Teacher-Learner Communication	60
01. 05 01 08	Full-Time/Part-Time Status	60
01. 05 01 09	Day/Evening Status	61
01. 05 01 10	Special Program Modification	61
01. 05 01 99	Other Entrance (Admission)	61
01. 05 02	Membership and Attendance	61
01. 05 03	Withdrawal	61
01. 05 04	Nonentrance	61
01. 05 99	Other Enrollment	61
01. 06	PERFORMANCE	61
01. 06 01	Learning Performance	61
01. 06 01 01	Program of Studies	61
01. 06 01 02	Course Information	62
01. 06 01 03	Mark or Report for Learner Performance	62
01. 06 01 04	Credit (Unit of Value)	62
01. 06 01 05	Cocurricular	62
01. 06 01 06	Progress	62
01. 06 01 07	Recognition for Completion	62

Code	Term	Definition page number
01. 06 01 99	<i>Other Learning Performance</i>	62
01. 06 02	Noninstitutional Performance	62
01. 06 03	Postinstitutional Performance	62
01. 06 03 01	<i>Postinstitutional Interests and Plans</i>	63
01. 06 03 02	<i>Postinstitutional Education and Training</i>	63
01. 06 03 99	<i>Other Postinstitutional Performance</i>	63
01. 06 99	Other Performance	63
01. 07	TRANSPORTATION	63
01. 08	SPECIAL ASSISTANCE AND TUITION	63
01. 99	OTHER LEARNER INFORMATION	63

CLASSIFICATION OF TERMS ABOUT LEARNING RESOURCES

Code Series 02.00

The items of information—terms and categories—in this section are used to classify data about the various aspects of Learning Resources. Learning Resources are considered as those resources—people, processes, and things—which are used to facilitate learning. As chapter 2 pointed out, the application of technology to any field of endeavor increases the number, variety, and sophistication of the resources used. By definition, technology is applied science—the translation of theory into practice—and the key to applied science is process or technique. In educational technology, process is considered as an essential resource, along with the people and things which implement process.

The majority of the Learning Resources in this section are those with which the learner himself can interact. Other resources support this interaction and the Learning Resources which are actually involved in the interaction.⁷ From the definition and model of educational technology in chapter 2, six subdivisions of the major classification, Learning Resources, 02.00 have been established: materials, devices, techniques, settings, content, and staff.

The sequence of these major classifications of resources in this handbook relates to their coverage in other handbooks and is *not* related to any relative importance in the field of educational technology. The classifications least developed in other handbooks are presented first in this handbook. Those classifications which are more extensively covered in other handbooks are last in this handbook. The intent is to allow the user of this handbook to find new information without searching through material with which he might already be familiar.

The codings for the major subdivisions of Learning Resources and their definitions, as well as the page numbers where each major subdivision begins are:

Code	Item of information	Page number section begins
02.	Learning Resources	63
02. 01	Materials	64
02. 02	Devices	80
02. 03	Techniques	100
02. 04	Settings	108
02. 05	Content	117
02. 06	Staff	127

⁷ For example, unexposed film is a material which can be converted into a slide, which is then used by the learner.

A detailed breakdown of the items of information in each major classification and more detailed information about the relationship of the major classification to other handbooks is found in the introductory material at the beginning of the list of terms for each Learning Resource, 02.01-02.06.

The terms for and definitions of Learning Resources which follow are representative of the majority of resources about which data would be collected. It is not meant to be prescriptive of what any organization or institution should have or use inasmuch as the resources used by a particular organization will reflect the nature of its own programs and emphases.

CLASSIFICATION OF TERMS ABOUT MATERIALS

Code Series 02.01

The items of information—terms and categories—in this section are used to classify data about the materials used either in the process of instruction or in its production, reproduction, transmission, or display. The materials referred to in this section meet *any two or more* of the following criteria:

- 1) The item is consumable through use.
- 2) The item loses its original shape and appearance with use.
- 3) The item is expendable, that is, if the item is damaged or some of its parts are lost or worn out, it is usually more feasible to replace it with a new item than to repair it.
- 4) The unit cost of the item makes it inadvisable to capitalize the item.
- 5) The item requires a device for viewing or hearing.
- 6) The item loses its identity through transformation or through incorporation into a different or more complex item.

The category, Materials, has two major subcategories—Recorded Materials, 02.0101, and Supplies, 02.0102. Recorded Materials are materials which are ready for use in the instructional process, usually with some sort of content or instructional message incorporated into them. Supplies are materials which are used in the preparation of Recorded Materials or which can be transformed into Recorded Materials.

Subdivisions of Recorded Materials are:

Code	Item of information	Page number section begins
02.01 01 01	Audiorecordings	64
02.01 01 02	Computer Materials	67
02.01 01 03	Electronic Display Materials	68
02.01 01 04	Projected and Magnified Materials	69
02.01 01 05	Printed/Pictorial Materials	71
02.01 01 06	Three-dimensional Materials	73
02.01 01 07	Kits	74

Subdivisions of Supplies are:

02.01 02 01	Audiorecording Supplies	75
02.01 02 02	Computer Supplies	76
02.01 02 03	Electronic Display Supplies	76
02.01 02 04	Graphics and Reproduction Supplies	77
02.01 02 05	Photographic Supplies	78

A more extensive list of terms relating to materials and supplies in education is found in Handbooks III⁸ and IIR.⁹ For a more extensive list of print materials, refer to the Library Statistics Operations Handbook.¹⁰

The terms used in this section are, in most cases, intended to be compatible with definitions of professional associations and of organizations concerned with standards. Any modifications are usually minor and have been made to maintain congruence with other handbooks in the series. The same is true of the definitions in chapter 4.

Code	Term	Definition page number
02. 01	MATERIALS	66
02. 01 01	Recorded Materials	66
02. 01 01 01	<i>Audiorecording</i>	66
02. 01 01 01 01	Audiocard, Recorded	66
02. 01 01 01 02	Audiodisc	66
02. 01 01 01 03	Audiotape, Recorded	66
02. 01 01 01 03 01	<u>Audiotape Reel, Recorded</u>	66
02. 01 01 01 03 02	<u>Audiotape Cassette, Recorded</u>	66
02. 01 01 01 03 03	<u>Audiotape Cartridge, Recorded</u>	67
02. 01 01 01 03 99	<u>Other Recorded Audiotapes</u>	67
02. 01 01 01 04	Audiopage, Recorded	67
02. 01 01 01 05	Dictation/Transcription Belt, Recorded	67
02. 01 01 01 06	Talking Book	67
02. 01 01 01 99	Other Audiorecordings	67
02. 01 01 02	<i>Computer Materials</i>	67
02. 01 01 02 01	Computer Card, Punched	67
02. 01 01 02 02	Computer Printout	67
02. 01 01 02 03	Computer Program	68
02. 01 01 02 04	Computer-Magnetic Tape, Recorded	68
02. 01 01 02 99	Other Recorded Computer Materials	68
02. 01 01 03	<i>Electronic Display Materials</i>	68
02. 01 01 03 01	Videotape, Recorded	68
02. 01 01 03 01 01	<u>Videotape Reel, Recorded</u>	68
02. 01 01 03 01 02	<u>Videotape Cassette, Recorded</u>	68
02. 01 01 03 01 03	<u>Videotape Cartridge, Recorded</u>	68
02. 01 01 03 01 99	<u>Other Recorded Videotape</u>	69
02. 01 01 03 02	Videodisc, Recorded	69
02. 01 01 03 99	Other Recorded Electronic Display Materials	69
02. 01 01 04	<i>Projected and Magnified Materials</i>	69
02. 01 01 04 01	Aperture Card	69
02. 01 01 04 02	Microform	69
02. 01 01 04 02 01	<u>Microfiche</u>	69
02. 01 01 04 02 02	<u>Microfilm Reel</u>	69
02. 01 01 04 02 03	<u>Micro-opaque</u>	69
02. 01 01 04 02 04	<u>Ultrafiche</u>	69
02. 01 01 04 02 99	<u>Other Microform Materials</u>	69
02. 01 01 04 03	Microscope Slide	70
02. 01 01 04 04	Filmstrip	70
02. 01 01 04 04 01	<u>Filmstrip, Silent</u>	70
02. 01 01 04 04 02	<u>Filmstrip, Sound</u>	70

⁸ Reason, Paul L., and Tankard, George G., Jr., *Property Accounting for Local and State School Systems*.

⁹ Roberts, Charles T., and Lichtenberger, Allan R., *Financial Accounting Classifications and Standard Terminology for Local and State School Systems*.

¹⁰ Frase, Robert W., ed., *Library Statistics Operations Handbook* (field review edition).

Code	Term	Definition page number
02. 01 01 04 04 99	<u>Other Filmstrips</u>	70
02. 01 01 04 05	Slide	70
02. 01 01 04 06	Slide/Audiotape	70
02. 01 01 04 07	Audioslide	70
02. 01 01 04 08	Overhead Transparency	71
02. 01 01 04 09	Stereograph	71
02. 01 01 04 10	Hologram	71
02. 01 01 04 11	Motion Picture	71
02. 01 01 04 11 01	<u>Motion Picture, 16mm</u>	71
02. 01 01 04 11 02	<u>Motion Picture, 8mm</u>	71
02. 01 01 04 11 03	<u>Motion Picture, Super 8mm</u>	71
02. 01 01 04 11 99	<u>Other Motion Pictures</u>	71
02. 01 01 04 99	Other Projected and Magnified Materials	71
02. 01 01 05	<i>Printed/Pictorial Materials</i>	71
02. 01 01 05 01	Book	72
02. 01 01 05 02	Chart	72
02. 01 01 05 03	Map	72
02. 01 01 05 04	Picture	72
02. 01 01 05 04 01	<u>Art Print</u>	72
02. 01 01 05 04 02	<u>Study Print</u>	72
02. 01 01 05 04 03	<u>Photograph</u>	72
02. 01 01 05 04 99	<u>Other Pictures</u>	72
02. 01 01 05 05	Serial	72
02. 01 01 05 05 01	<u>Periodical</u>	73
02. 01 01 05 05 99	<u>Other Serials</u>	73
02. 01 01 05 99	Other Printed/Pictorial Materials	73
02. 01 01 06	<i>Three-Dimensional Materials</i>	73
02. 01 01 06 01	Diorama	73
02. 01 01 06 02	Exhibit	73
02. 01 01 06 03	Game	73
02. 01 01 06 04	Globe	73
02. 01 01 06 05	Mock-up	73
02. 01 01 06 06	Model	73
02. 01 01 06 07	Realia	74
02. 01 01 06 08	Simulation Material	74
02. 01 01 06 09	Educational Toy	74
02. 01 01 06 99	Other Three-Dimensional Materials	74
02. 01 01 07	<i>Kit</i>	74
02. 01 01 07 01	Multimedia Kit	74
02. 01 01 07 02	Learning Package	74
02. 01 01 07 99	Other Kits	74
02. 01 01 99	<i>Other Recorded Materials</i>	74
02. 01 02	<i>Supplies</i>	74
02. 01 02 01	<i>Audiorecording Supplies</i>	75
02. 01 02 01 01	Audiocard, Unrecorded	75
02. 01 02 01 02	Audiotape, Unrecorded	75
02. 01 02 01 02 01	<u>Audiotape Reel, Unrecorded</u>	75
02. 01 02 01 02 02	<u>Audiotape Cassette, Unrecorded</u>	75
02. 01 02 01 02 03	<u>Audiotape Cartridge, Unrecorded</u>	75

Code	Term	Definition page number
02. 01 02 01 02 99	<u>Other Unrecorded Audiotapes</u>	75
02. 01 02 01 03	<u>Audiopage, Unrecorded</u>	75
02. 01 02 01 04	<u>Magnetic Film, Unrecorded</u>	75
02. 01 02 01 99	<u>Other Audiorecording Supplies</u>	76
02. 01 02 02	<u>Computer Supplies</u>	76
02. 01 02 02 01	<u>Computer Cards, Unpunched</u>	76
02. 01 02 02 02	<u>Mark Sensing Form</u>	76
02. 01 02 02 03	<u>Computer-Magnetic Tape, Unrecorded</u>	76
02. 01 02 02 04	<u>Computer Output Form</u>	76
02. 01 02 02 99	<u>Other Computer Supplies</u>	76
02. 01 02 03	<u>Electronic Display Supplies</u>	76
02. 01 02 03 01	<u>Videotape, Unrecorded</u>	76
02. 01 02 03 01 01	<u>Videotape Reel, Unrecorded</u>	77
02. 01 02 03 01 02	<u>Videotape Cassette, Unrecorded</u>	77
02. 01 02 03 01 03	<u>Videotape Cartridge, Unrecorded</u>	77
02. 01 02 03 01 99	<u>Other Unrecorded Videotapes</u>	77
02. 01 02 03 99	<u>Other Electronic Display Supplies</u>	77
02. 01 02 04	<u>Graphics and Reproduction Supplies</u>	77
02. 01 02 04 01	<u>Art and Graphic Art Supplies</u>	77
02. 01 02 04 02	<u>Diazo Supplies</u>	77
02. 01 02 04 03	<u>Thermal Copy Supplies</u>	77
02. 01 02 04 04	<u>Electrostatic Copy Supplies</u>	78
02. 01 02 04 05	<u>Wet Process Copy Supplies</u>	78
02. 01 02 04 06	<u>Spirit Duplication Supplies</u>	78
02. 01 02 04 07	<u>Rotary Stencil Duplication Supplies</u>	78
02. 01 02 04 08	<u>Offset Printing Supplies</u>	78
02. 01 02 04 09	<u>Mounting/Laminating Supplies</u>	78
02. 01 02 04 99	<u>Other Graphics and Reproduction Supplies</u>	78
02. 01 02 05	<u>Photographic Supplies</u>	78
02. 01 02 05 01	<u>Photographic Film</u>	78
02. 01 02 05 01 01	<u>Motion Picture Film, 16mm</u>	79
02. 01 02 05 01 02	<u>Motion Picture Film, 8mm</u>	79
02. 01 02 05 01 03	<u>Motion Picture Film, Super/Single 8mm</u>	79
02. 01 02 05 01 09	<u>Still Photographic Film</u>	79
02. 01 02 05 01 99	<u>Other Photographic Film, Raw Stock</u>	79
02. 01 02 05 02	<u>Photographic Paper</u>	79
02. 01 02 05 03	<u>Photographic Chemicals</u>	79
02. 01 02 05 04	<u>Flashlamp</u>	79
02. 01 02 05 99	<u>Other Photographic Supplies</u>	80
02. 01 02 99	<u>Other Supplies</u>	80
02. 01 99	<u>Other Materials</u>	80

CLASSIFICATION OF TERMS ABOUT DEVICES

Code Series 02.02

The items of information—terms and categories—in this section are used to classify data about the devices used in the process of instruction or in its production, reproduction, transmission, or display. The devices referred to in this section meet at least two of the following criteria:

- 1) The item has mechanical, moving parts or has electronic or electrical circuits.
- 2) The item retains its original shape and appearance with use.
- 3) The item is nonexpendable, that is, if the article is damaged or some of its parts lost or worn out, it is usually more feasible to repair the item than to replace it with an entirely new unit.
- 4) The item represents an investment of money that makes it feasible to capitalize the item.

The first three of the preceding criteria relate to the nature of the device, while the fourth represents a fiscal decision.

The classification scheme for Devices corresponds to the scheme for Materials and the subcategories of Devices follow the subcategories of Materials whenever possible. The major subcategories of the category, Devices, 02.02, are:

Code	Term	Definition page number
02.02.01	Audio Devices	80
02.02.02	Computer Devices	85
02.02.03	Graphics and Reproduction Devices	86
02.02.04	Electronic-Display Devices	88
02.02.05	Photographic Devices	91
02.02.06	Projected and Magnified Display Devices	94
02.02.07	Physical Displays	99
02.02.08	Subject-Matter-Related Devices	99

Many of the Devices subcategories are representative of major industries and fields, for example, the motion picture industry or the computer field. The list of devices is not meant to be exhaustive in any particular field. The definitions for the devices listed are generally nontechnical in nature and are primarily intended to assist the user in identifying and categorizing the devices for data-collection purposes. For more extensive lists of terms and their definitions within a particular industry or field, references related to that field should be consulted.

Some devices are used primarily within a specific subject-matter area. For example, a music course might involve the use of a particular instrument, or a physical education course might require certain specialized equipment.¹¹ This section does not list and define each of those devices but does provide a general category, Subject-Matter-Related Devices, 02.0208, for such devices.

Code	Term	Definition page number
02.02	DEVICES	80
02.02.01	Audio Devices	80
02.02.01.01	<i>Audiotape Recorder</i>	80
02.02.01.01.01	Audiotape Recorder, Reel	80
02.02.01.01.02	Audiotape Recorder, Cassette	80
02.02.01.01.03	Audiotape Recorder, Cartridge	83
02.02.01.01.04	Audiotape Recorder, Magnetic Film	83
02.02.01.01.99	Other Audiotape Recorders	83
02.02.01.02	<i>Audiotape Player</i>	83
02.02.01.02.01	Audiotape Player, Reel	83
02.02.01.02.02	Audiotape Player, Cassette	83
02.02.01.02.03	Audiotape Player, Cartridge	83
02.02.01.02.99	Other Audiotape Players	83
02.02.01.03	<i>Audiocard Recorder</i>	83

¹¹ For a list of subject-matter areas and their definitions, see the sections on Content, 02.05.

Code	Term	Defintion page number
02. 02 01 04	<i>Audiopage Recorder</i>	83
02. 02 01 05	<i>Audiolisc Player</i>	83
02. 02 01 06	<i>Audio Transcriber</i>	84
02. 02 01 07	<i>Audiotape Duplicator</i>	84
02. 02 01 07 01	<i>Audiotape Duplicator, Reel</i>	84
02. 02 01 07 02	<i>Audiotape Duplicator, Cassette</i>	84
02. 02 01 07 03	<i>Audiotape Duplicator, Cartridge</i>	84
02. 02 01 07 99	<i>Other Audiotape Duplicators</i>	84
02. 02 01 08	<i>Audio Console</i>	84
02. 02 01 09	<i>Audio Amplification Equipment</i>	84
02. 02 01 10	<i>Audio Mixer</i>	84
02. 02 01 11	<i>Audio Compressor</i>	84
02. 02 01 12	<i>Radio Receiver</i>	85
02. 02 01 13	<i>Listening Center</i>	85
02. 02 01 14	<i>Headset</i>	85
02. 02 01 15	<i>Loudspeaker</i>	85
02. 02 01 16	<i>Microphone</i>	85
02. 02 01 17	<i>Audio Induction Equipment</i>	85
02. 02 01 99	<i>Other Audio Devices</i>	85
02. 02 02	Computer Devices	85
02. 02 02 01	<i>Computer</i>	85
02. 02 02 02	<i>Computer Terminal</i>	86
02. 02 02 03	<i>Computer Input Device</i>	86
02. 02 02 04	<i>Computer Output Device</i>	86
02. 02 02 05	<i>Computer Console</i>	86
02. 02 02 99	<i>Other Computer Devices</i>	86
02. 02 03	Graphics and Reproduction Devices	86
02. 02 03 01	<i>Diazo Printer</i>	86
02. 02 03 02	<i>Spirit Duplicator</i>	86
02. 02 03 03	<i>Rotary Stencil Duplicator</i>	87
02. 02 03 04	<i>Electrostatic Copier</i>	87
02. 02 03 05	<i>Thermal Copier</i>	87
02. 02 03 06	<i>Wet Process Copier</i>	87
02. 02 03 07	<i>Offset Press</i>	87
02. 02 03 08	<i>Sign Maker</i>	87
02. 02 03 09	<i>Mechanical Lettering Device</i>	87
02. 02 03 10	<i>Photographic Lettering Device</i>	87
02. 02 03 11	<i>Drafting Machine</i>	87
02. 02 03 12	<i>Drawing Board/Table</i>	87
02. 02 03 13	<i>Light Box</i>	88
02. 02 03 14	<i>Dry Mount Press</i>	88
02. 02 03 15	<i>Laminator</i>	88
02. 02 03 16	<i>Image Modification Device</i>	88
02. 02 03 99	<i>Other Graphics and Reproduction Devices</i>	88
02. 02 04	Electronic Display Devices	88
02. 02 04 01	<i>Videotape Recorder</i>	88
02. 02 04 01 01	<i>Videotape Recorder, Reel</i>	88
02. 02 04 01 02	<i>Videotape Recorder, Cassette</i>	88
02. 02 04 01 03	<i>Videotape Recorder, Cartridge</i>	89

Code	Term	Definition page number
02. 02 04 01 99	Other Videotape Recorders	89
02. 02 04 02	Videoplayer	89
02. 02 04 02 01	Videoplayer, Reel	89
02. 02 04 02 02	Videoplayer, Cassette	89
02. 02 04 02 03	Videoplayer, Cartridge	89
02. 02 04 02 04	Videoplayer, Disc	89
02. 02 04 02 99	Other Videoplayers	89
02. 02 04 03	Videotape Editor	89
02. 02 04 04	Videotape Duplicator	89
02. 02 04 05	Television Camera	89
02. 02 04 06	Television Camera Support	90
02. 02 04 07	Television Receiver	90
02. 02 04 08	Television Monitor	90
02. 02 04 09	Film Chain	90
02. 02 04 10	Television Console	90
02. 02 04 11	Television Switcher	90
02. 02 04 12	Antenna System	90
02. 02 04 13	Slow-scan-Television Device	90
02. 02 04 14	Television Projector	91
02. 02 04 15	Telewriter	91
02. 02 04 16	Switching System	91
02. 02 04 17	Remote-Access Network	91
02. 02 04 99	Other Electronic Display Devices	91
02. 02 05	Photographic Devices	91
02. 02 05 01	Camera	91
02. 02 05 01 01	Camera, Motion Picture	91
02. 02 05 01 02	Camera, Still Photographic	91
02. 02 05 01 03	Camera, Microform	92
02. 02 05 01 99	Other Cameras	92
02. 02 05 02	Camera Lens, Interchangeable	92
02. 02 05 03	Exposure Meter	92
02. 02 05 04	Electronic Flash	92
02. 02 05 05	Lighting Equipment	92
02. 02 05 06	Camera Support	92
02. 02 05 07	Copystand	93
02. 02 05 08	Animation Stand	93
02. 02 05 09	Slide Duplicator	93
02. 02 05 10	Enlarger	93
02. 02 05 11	Darkroom Equipment	93
02. 02 05 12	Photographic Processor	93
02. 02 05 13	Motion Picture Processor	93
02. 02 05 14	Motion Picture Editor	93
02. 02 05 99	Other Photographic Devices	93
02. 02 06	Projected and Magnified Display Devices	94
02. 02 06 01	Filmstrip Projector	94
02. 02 06 01 01	Filmstrip Projector, Silent	94
02. 02 06 01 02	Sound Filmstrip Projector, Audiodisc	94
02. 02 06 01 03	Sound Filmstrip Projector, Cassette	94
02. 02 06 01 04	Filmstrip/Slide Projector	94

Code	Term	Definition page number
02. 02 06 01 99	Other Filmstrip Projectors	94
02. 02 06 02	<i>Filmstrip Viewer</i>	94
02. 02 06 02 01	Filmstrip Viewer, Silent	94
02. 02 06 02 02	Sound Filmstrip Viewer, Audiodisc	95
02. 02 06 02 03	Sound Filmstrip Viewer, Cassette	95
02. 02 06 02 04	Sound Filmstrip Viewer, Cartridge	95
02. 02 06 02 99	Other Sound Filmstrip Viewers	95
02. 02 06 03	<i>Slide Projector</i>	95
02. 02 06 03 01	Slide Projector, Silent	95
02. 02 06 03 02	Slide/Filmstrip Projector	95
02. 02 06 03 03	Sound Slide Projector, Cassette	95
02. 02 06 03 04	Sound Slide Projector, Cartridge	95
02. 02 06 03 05	Slide Projector, Random Access	95
02. 02 06 03 06	Audioslide Projector	96
02. 02 06 03 07	Lantern Slide Projector	96
02. 02 06 03 99	Other Slide Projectors	96
02. 02 06 04	<i>Slide Viewer</i>	96
02. 02 06 04 01	Slide Viewer, Silent	96
02. 02 06 04 02	Sound Slide Viewer, Cassette	96
02. 02 06 04 03	Sound Slide Viewer, Cartridge	96
02. 02 06 04 99	Other Slide Viewers	96
02. 02 06 05	<i>Sound Synchronizer</i>	97
02. 02 06 06	<i>Projector Dissolve Control</i>	97
02. 02 06 07	<i>Projection/Sound Programmer</i>	97
02. 02 06 08	<i>Overhead Projector</i>	97
02. 02 06 09	<i>Opaque Projector</i>	97
02. 02 06 10	<i>Stereoscope</i>	97
02. 02 06 11	<i>Teaching Machine</i>	97
02. 02 06 12	<i>Microprojector</i>	97
02. 02 06 13	<i>Microform Reader</i>	97
02. 02 06 14	<i>Microform Reader/Printer</i>	98
02. 02 06 15	<i>Motion Picture Projector</i>	98
02. 02 06 15 01	Motion Picture Projector, 16mm	98
02. 02 06 15 02	Motion Picture Projector, Dual 8mm	98
02. 02 06 15 03	Motion Picture Projector, 8mm	98
02. 02 06 15 04	Motion Picture Projector, Super 8mm	98
02. 02 06 15 99	Other Motion Picture Projectors	98
02. 02 06 16	<i>Film Inspection/Cleaning Machine</i>	98
02. 02 06 17	<i>Screen</i>	99
02. 02 06 99	<i>Other Projected and Magnified Display Devices</i>	99
02. 02 07	<i>Physical Displays</i>	99
02. 02 07 01	<i>Bulletin Board</i>	99
02. 02 07 02	<i>Chalkboard</i>	99
02. 02 07 03	<i>Feltboard</i>	99
02. 02 07 04	<i>Hook-and-Loop Board</i>	99
02. 02 07 05	<i>Magnetic Board</i>	99
02. 02 07 99	<i>Other Physical Displays</i>	99
02. 02 08	<i>Subject-Matter-Related Devices</i>	99
02. 02 99	<i>Other Devices</i>	100

CLASSIFICATION OF TERMS ABOUT TECHNIQUES

Code Series 02.03

The items of information—terms and categories—in this section are used to classify data about the techniques used in structuring and/or transmitting instruction. Techniques provide the structure for the presentation of information to the learner. Choosing and applying an appropriate technique is essential to successful instruction. Techniques vary widely to meet an extensive range of learning situations. Techniques may be used in combination and the longer a unit of instruction, the greater the number of techniques which are likely to be used.

The category, Techniques, 02.03, is divided into two major subcategories, General Techniques of Instruction, 02.0301, and Resource-based Techniques of Instruction, 02.0302. General Techniques are those which usually need no other learning resources and which are applicable to a variety of learning activities. For example, a discussion can be used in a number of instructional situations and does not necessitate any other resource. A Resource-based Technique always relates to a specific learning resource. A field trip, by definition, involves a specific site or setting. The following list identifies three subcategories of Resource-based Techniques. They are: Settings, Materials, and Devices, and the roles of Learners and Staff. A number of the terms, especially General Techniques of Instruction, are taken from Handbook VI.¹²

Code	Term	Definition page number
02. 03	TECHNIQUES	100
02. 03 01	General Techniques of Instruction	100
02. 03 01 01	<i>Comparative Analysis</i>	100
02. 03 01 02	<i>Demonstration</i>	100
02. 03 01 03	<i>Directed Observation</i>	100
02. 03 01 04	<i>Discussion</i>	100
02. 03 01 05	<i>Dramatization</i>	100
02. 03 01 06	<i>Drill</i>	102
02. 03 01 07	<i>Experimentation</i>	102
02. 03 01 08	<i>Lecture</i>	102
02. 03 01 09	<i>Listening</i>	102
02. 03 01 10	<i>Manipulative and Tactile Activity</i>	102
02. 03 01 11	<i>Modeling and Imitation</i>	102
02. 03 01 12	<i>Practice</i>	102
02. 03 01 13	<i>Problem Solving</i>	102
02. 03 01 14	<i>Programed Instruction</i>	102
02. 03 01 15	<i>Project</i>	103
02. 03 01 16	<i>Recitation</i>	103
02. 03 01 17	<i>Simulation</i>	103
02. 03 01 18	<i>Gaming</i>	103
02. 03 01 99	<i>Other General Techniques of Instruction</i>	103
02. 03 02	Resource-based Technique of Instruction	103
02. 03 02 01	Setting-Based Techniques	103
02. 03 02 01 01	<i>Open Classroom</i>	103
02. 03 02 01 02	<i>Open Corridor</i>	103
02. 03 02 01 03	<i>Shopwork</i>	103
02. 03 02 01 04	<i>Laboratory Experience</i>	103
02. 03 02 01 05	<i>Field Trip</i>	104
02. 03 02 01 06	<i>Field Experience</i>	104

¹²Putnam, John F., and Chismore, W. Dale. *Standard Terminology for Curriculum and Instruction in Local and State School Systems*.

Code	Term	Definition page number
02. 03 02 01 07	Home Instruction	104
02. 03 02 01 08	Hospital Instruction	104
02. 03 02 01 99	Other Setting-based Techniques	104
02. 03 02 02	<i>Material/Device-based Techniques</i>	104
02. 03 02 02 01	Computer-based Instruction	104
02. 03 02 02 01 01	<u>Computer-Assisted Instruction</u>	104
02. 03 02 02 01 02	<u>Computer-Developed Instruction</u>	105
02. 03 02 02 01 03	<u>Computer Simulation</u>	105
02. 03 02 02 01 04	<u>Computer-Managed Instruction</u>	105
02. 03 02 02 01 99	<u>Other Computer-based Instruction</u>	105
02. 03 02 02 02	Radio Instruction	105
02. 03 02 02 03	Television Instruction	105
02. 03 02 02 03 01	<u>Educational Television Programing</u>	105
02. 03 02 02 03 02	<u>Instructional Television Programing</u>	105
02. 03 02 02 03 99	<u>Other Television Instruction</u>	105
02. 03 02 02 04	Telephone Instruction	105
02. 03 02 02 05	Remote Access Instruction	106
02. 03 02 02 06	Mediated Self-instruction	106
02. 03 02 02 99	Other Material/Device-based Techniques	106
02. 03 02 03	<i>People-based Techniques</i>	106
02. 03 02 03 01	Teaching	106
02. 03 02 03 01 01	<u>Cross-age Teaching</u>	106
02. 03 02 03 01 02	<u>Peer Teaching</u>	106
02. 03 02 03 01 03	<u>Team Teaching</u>	106
02. 03 02 03 01 04	<u>Seminar</u>	106
02. 03 02 03 01 05	<u>Group Work</u>	107
02. 03 02 03 01 99	<u>Other Teaching</u>	107
02. 03 02 03 02	Tutoring	107
02. 03 02 03 02 01	<u>Cross-age Tutoring</u>	107
02. 03 02 03 02 02	<u>Peer Tutoring</u>	107
02. 03 02 03 02 03	<u>Independent Study</u>	107
02. 03 02 03 02 99	<u>Other Tutoring</u>	107
02. 03 02 03 99	Other People-based Techniques	107
02. 03 02 99	<i>Other Resource-based Techniques</i>	107
02. 03 99	<i>Other Techniques</i>	107

CLASSIFICATION OF TERMS ABOUT SETTINGS

Code Series 02.04

The items of information—terms and categories—in this section are used to classify data about the physical settings used for learning, instruction, and the direct support of instruction.¹³ As concepts such as “off-campus learning, universities without walls, and mediated instruction” are becoming more widely accepted and applied, there is a concomitant increase in the number and diversity of settings where learning actually takes place. Learning activities and learners may be separated from instructional activities and instructors by long distances (as in the case of televised instruction).

The use of mediated instruction can convert parts of the home or office into space devoted to the media

¹³For the difference between learning and instruction, see those terms in the glossary.

production and related delivery systems. Further, the use of special settings can lead to specialized instructional techniques. (See Setting-based Techniques, 02.030201.)

While this handbook provides the flexibility to add categories for the diverse off-campus learning spaces, the emphasis is upon on-campus settings used for learning activities, instructional activities, and activities in the direct support of instruction. The bulk of the terms and categories for on-campus learning spaces is derived from Handbook VI,¹⁴ Handbook III,¹⁵ and the *Higher Education Facilities Inventory and Classification Manual*.¹⁶ These sources should be consulted for a more detailed and exhaustive list of the spaces and areas relating to educational organizations and institutions.

The category, Settings, 02.04, is divided into two main subdivisions—instructional areas and instructional support areas. Instructional Areas, 02.0401, is further subdivided into four sub-subcategories. The basic differences between these four can be summarized as follows:

- 1) Instructional Spaces, 02.040101, are the spaces for regularly scheduled instructional activities, usually with groups of learners, and which have no special design or equipment. General instruction is their intended primary use.
- 2) Learning Resource Spaces, 02.040102, are the spaces used for the supply and some development of learning resources as well as for learning activities (usually with individual learners).
- 3) General Use Spaces, 02.040103, are the spaces which have a number of intended uses, only one of which is instruction.
- 4) Special Use Spaces, 02.040104, are the spaces which are intended primarily for a use other than instruction but which are often used for instruction as well.

The basis for differentiating among these spaces is the primary use to which the space is used; which activities are regularly scheduled in the space; what kinds of furniture, equipment, and materials are usually found in the space; and who regularly uses the space. These are all indicators of how the space should be classified. Care should be taken not to confuse the names of physical spaces or settings with the names of units of programs which use that space. Attention to the *use* and *function* of the space will offset possible confusion.

Note that the *terms* used to denote particular settings change (where possible) with level of detail. The category is setting. The first level of detail below that is referred to as *area(s)*. The second level of detail uses the term *space(s)*. The third level of detail uses the term *room(s)*. The intent is to give the user some idea of the level of detail by the term used. There are, however, exceptions to this rule.¹⁷

Code	Term	Definition page number
02. 04	SETTINGS	108
02. 04 01	Instructional Area	108
02. 04 01 01	<i>Instructional Space</i>	108
02. 04 01 01 01	Regular Instructional Space	108
02. 04 01 01 02	Special Instructional Space	108
02. 04 01 01 02 01	<u>Business Education Room</u>	108
02. 04 01 01 02 02	<u>Computer Laboratory</u>	110
02. 04 01 01 02 03	<u>Home Economics Room</u>	110
02. 04 01 01 02 04	<u>Kindergarten Room</u>	110
02. 04 01 01 02 05	<u>Mathematics Laboratory</u>	110
02. 04 01 01 02 06	<u>Media-based Instructional Laboratory</u>	110

¹⁴Putnam, John F., and Chismore, W. Dale, *Standard Terminology for Curriculum and Instruction in Local and State School Systems*.

¹⁵Reason, Paul L., and Tankard, George G., Jr., *Property Accounting for Local and State School Systems*.

¹⁶Romney, Leonard C., *Higher Education Facilities Inventory and Classification Manual*.

¹⁷In some cases where a term is well established (such as *laboratory*, *shop*, *motion picture studio*, or *television control room*) and commonly accepted, that term is used instead of area, space, or room. However, the term in the definition e.g., "—the space used for . . ." will still reflect the level of detail.

Code	Term	Definition page number
02. 04 01 01 02 07	<u>Music Room</u>	110
02. 04 01 01 02 08	<u>Science Laboratory</u>	110
02. 04 01 01 02 09	<u>Shop Room</u>	111
02. 04 01 01 02 10	<u>Special Instructional Space for Exceptional Children</u>	111
02. 04 01 01 02 99	<u>Other Special Instructional Space</u>	111
02. 04 01 01 99	<u>Other Instructional Spaces</u>	111
02. 04 01 02	<i>Learning Resource Space</i>	111
02. 04 01 02 01	<u>General Learning Resources Space</u>	111
02. 04 01 02 02	<u>Special Learning Resources Space</u>	111
02. 04 01 02 02 01	<u>Mediamobile</u>	112
02. 04 01 02 02 02	<u>Open Stack Reading Room</u>	112
02. 04 01 02 02 03	<u>Satellite Center</u>	112
02. 04 01 02 02 99	<u>Other Special Learning Resources Space</u>	112
02. 04 01 02 99	<u>Other Learning Resources Space</u>	112
02. 04 01 03	<i>General Use Space</i>	112
02. 04 01 03 01	<u>Auditorium</u>	112
02. 04 01 03 02	<u>Cafetorium</u>	112
02. 04 01 03 03	<u>Gymnatorium</u>	113
02. 04 01 03 04	<u>Multipurpose Room</u>	113
02. 04 01 03 99	<u>Other General Use Space</u>	113
02. 04 01 04	<i>Special Use Space</i>	113
02. 04 01 04 01	<u>Demonstration Space</u>	113
02. 04 01 04 02	<u>Field Test Station</u>	113
02. 04 01 04 03	<u>Gallery</u>	113
02. 04 01 04 04	<u>Gymnasium</u>	113
02. 04 01 04 05	<u>Museum</u>	114
02. 04 01 04 06	<u>Planetarium</u>	114
02. 04 01 04 99	<u>Other Special Use Space</u>	114
02. 04 01 99	<i>Other Instructional Space</i>	114
02. 04 02	<i>Instructional Support Area</i>	114
02. 04 02 01	<u>Audio Control Room</u>	114
02. 04 02 02	<u>Computer Center</u>	114
02. 04 02 03	<u>Curriculum Laboratory</u>	114
02. 04 02 04	<u>Darkroom</u>	115
02. 04 02 05	<u>Equipment Room</u>	115
02. 04 02 06	<u>Graphic Production Area</u>	115
02. 04 02 07	<u>Maintenance and Repair Shop</u>	115
02. 04 02 08	<u>Mobile Studio</u>	115
02. 04 02 09	<u>Motion Picture Studio</u>	115
02. 04 02 10	<u>Photographic Studio</u>	115
02. 04 02 11	<u>Print Shop</u>	115
02. 04 02 12	<u>Projection Room</u>	115
02. 04 02 13	<u>Radio Studio</u>	116
02. 04 02 14	<u>Remote Location</u>	116
02. 04 02 15	<u>Sound Studio</u>	116
02. 04 02 16	<u>Television Control Room</u>	116
02. 04 02 17	<u>Television Studio</u>	116
02. 04 02 99	<u>Other Instructional Support Areas</u>	116
02. 04 99	<u>Other Settings</u>	116

CLASSIFICATION OF TERMS ABOUT CONTENT

Code Series 02.05

The items of information—terms and categories—in this section are used to classify data about the content or subject matter which the learner is expected to learn. While any information, attitudes, or skills can be considered as content, the terms in this section deal only with the subject-matter areas represented in a majority of instructional programs across the country. Special subject-matter areas not covered in this section can be added if it is necessary to gather information about such areas. The category, Content, 02.05, is divided into two subcategories which reflect the sources from which the majority of terms were taken.

The first category, Subject-Matter Areas for Elementary, Secondary, and Associate Level Education, 02.0501, is from Handbook VI¹⁸ in the series and covers the content in elementary, secondary, and selected content areas in junior/community colleges, technical institutes, and adult education programs. This category lists and defines 20 discrete subject-matter areas, seven of which are often identified with vocational education.¹⁹ Only the major categories are listed and defined in this handbook. For a more extensive, detailed listing of the subcategories and definitions with several levels of detail, refer to Handbook VI.

The second subcategory, Subject-Matter Areas for Higher Education, 02.0502, is taken from *A Taxonomy of Instructional Programs in Higher Education*.²⁰ Higher education as used in this context of this section refers to 4-year (or longer) programs undertaken at the completion of secondary education. The offerings of 4-year colleges, universities, graduate schools, and professional schools would usually be considered in this category. For a more extensive, detailed listing of these subcategories, refer to *A taxonomy of Instructional Programs in Higher Education*.

As of the writing of this section, there are efforts underway to develop a single, comprehensive, articulated list of terms and definitions which will cover content from preschool through elementary, secondary, and postsecondary subject-matter areas. When this is developed, it will supplant the terms and definitions which follow. Until that time, this is the recommended list of terms for data collection about content.

Code	Term	Definition page number
02. 05	CONTENT	117
02. 05 01	Subject-Matter Areas for Elementary, Secondary, and Associate Level Education	117
02. 05 01 01	Agriculture	117
02. 05 01 02	Art	117
02. 05 01 03	Business	117
02. 05 01 04	Distributive Education	119
02. 05 01 05	English Language Arts	119
02. 05 01 06	Foreign Languages	119
02. 05 01 07	Health Occupations Education	119
02. 05 01 08	Health and Safety in Daily Living, Physical Education, and Recreation ..	120
02. 05 01 09	Home Economics	120
02. 05 01 10	Industrial Arts	120
02. 05 01 11	Mathematics	120
02. 05 01 12	Music	120

¹⁸ Putnam, John F. and Chismore, W. Dale, *Standard Terminology for Curriculum and Instruction in Local and State School Systems*. The subject-matter section of Handbook VI has been adopted by the U.S. National Bureau of Standards as a Federal standard for data collection.

¹⁹ These areas are Agriculture, Distributive Education, Health Occupations Education, Home Economics, Office Occupations, Technical Education, and Trade and Industrial Occupations.

²⁰ Huff, Robert A. and Chandler, Marjorie O., *A Taxonomy of Instructional Programs in Higher Education*. The terms in this publication form the basis of the data collection on subject matter for the Higher Education General Information System (HEGIS).

Code	Term	Definition page number
02. 05 01 13	<i>Natural Sciences</i>	120
02. 05 01 14	<i>Office Occupations</i>	121
02. 05 01 15	<i>Social Sciences/Social Studies</i>	121
02. 05 01 16	<i>Technical Education</i>	121
02. 05 01 17	<i>Trade and Industrial Occupations</i>	122
02. 05 01 18	<i>General Elementary Education and General Secondary Education</i>	122
02. 05 01 19	<i>Differentiated Curriculum for Handicapped Students</i>	122
02. 05 01 20	<i>Cocurricular Activities</i>	123
02. 05 01 21	<i>Safety and Driver Education</i>	123
02. 05 01 22	<i>Junior ROTC</i>	123
02. 05 01 99	<i>Other Subject-Matter Areas for Elementary, Secondary, and Associate-Level Education</i>	123
02. 05 02	Subject-Matter Areas for Higher Education	123
02. 05 02 01	<i>Agriculture and Natural Resources</i>	124
02. 05 02 02	<i>Architecture and Environmental Design</i>	124
02. 05 02 03	<i>Area Studies</i>	124
02. 05 02 04	<i>Biological Sciences</i>	124
02. 05 02 05	<i>Business and Management</i>	124
02. 05 02 06	<i>Communications</i>	124
02. 05 02 07	<i>Computer and Information Sciences</i>	124
02. 05 02 08	<i>Education</i>	124
02. 05 02 09	<i>Engineering</i>	125
02. 05 02 10	<i>Fine and Applied Arts</i>	125
02. 05 02 11	<i>Foreign Languages</i>	125
02. 05 02 12	<i>Health Professions</i>	125
02. 05 02 13	<i>Home Economics</i>	125
02. 05 02 14	<i>Law</i>	125
02. 05 02 15	<i>Letters</i>	125
02. 05 02 16	<i>Library Science</i>	125
02. 05 02 17	<i>Mathematics</i>	125
02. 05 02 18	<i>Military Sciences</i>	126
02. 05 02 19	<i>Physical Sciences</i>	126
02. 05 02 20	<i>Psychology</i>	126
02. 05 02 21	<i>Public Affairs and Services</i>	126
02. 05 02 22	<i>Social Sciences</i>	126
02. 05 02 23	<i>Theology</i>	126
02. 05 02 24	<i>Interdisciplinary Studies</i>	126
02. 05 02 25	<i>Other Subject-Matter Areas for Higher Education</i>	126
02. 05 99	Other Content	126

CLASSIFICATION OF TERMS ABOUT STAFF

Code Series 02.06

The items of information—terms and categories—in this section are used to classify data about the general staff assignments involved in the development, preparation, delivery, and evaluation of instruction—whether in-person instruction or instruction through media. The categories in this section reflect broad, generalized groupings of the

various activities which staff members perform.²¹ The categories for the assignments do not reflect any specific job title nor prescribe any staffing patterns but are overall classifications for staff activities relating to instruction and the direct support of instruction.

Assignment categories are based on the work done and not on the experience, education, or job title of the staff member doing the work. Thus a staff member with a doctorate who performs clerical activities as part of his assignment would be recorded under the classification, "Office/Clerical Assignment." Conversely, a person with no formal education but who supervises food services within a unit would be classified under "Supervising/Directing Assignment." This point should be kept in mind especially in reporting programs where experienced, highly skilled volunteer workers may perform limited, unskilled activities.

A staff member may perform activities in two or more different assignment categories. In this case, the full-time equivalency, actual time, or other appropriate unit of measure should be recorded for *each* assignment.

The major subcategories (first level of detail) of the category, Staff, 02.06, are derived from Handbook IVR on staff accounting²² and are directly related to parts of *A Manual for Manpower Accounting in Higher Education*.²³ They are:

Code	Item of information	Page number section begins
02. 06 01	Official/Administrative Assignment	127
02. 06 02	Professional/Specialist Assignment	129
02. 06 03	Technical Assignment	131
02. 06 04	Office/Clerical Assignment	131
02. 06 05	Aide Assignment	132
02. 06 06	Crafts and Trades Assignment	132

These major subcategories also reflect the job categories defined and used by the Equal Opportunity Commission, the Bureau of the Census, and the U.S. Department of Labor. While the major subcategories are derived from Handbook IVR, not all of the assignments listed in that handbook are listed here. For a more extensive list relating to elementary and secondary education, the user should consult Handbook IVR. For a more extensive listing of higher education staff, the user should consult *A Manual for Manpower Accounting in Higher Education*.

Because of the general nature of the assignment categories, the definitions for the categories are broadly written. Some definitions include job titles which, as commonly understood, would fall under the assignment classification. These are intended only as examples to clarify and further explain the terms and definitions.

Code	Term	Definition page number
02. 06	STAFF	127
02. 06 01	Official/Administrative Assignment	127
02. 06 01 01	Board of Directors Assignment	127
02. 06 01 02	System Administrative Assignment	127
02. 06 01 03	Unit Administrative Assignment	127
02. 06 01 04	Supervision/Directing Assignment	127
02. 06 01 99	Other Official/Administrative Staff Assignments	129
02. 06 02	Professional/Specialist Assignment	129
02. 06 02 01	Counseling Assignment	129

²¹ For more specific activities or tasks (rather than the generalized assignment groupings), see the Learning Resources Development Functions in this handbook. The term lists are on pp. 32-46; the definitions from pp. 132-190.

²² Roberts, Charles T., *Staff Accounting: Classifications and Standard Terminology for Local and State School Systems*, 1974.

²³ Minter, W. John., *A Manual for Manpower Accounting in Higher Education*, (Preliminary Edition).

Code	Term	Definition page number
02. 06 02 02	<i>Research Assignment</i>	129
02. 06 02 03	<i>Educational Development Assignment</i>	129
02. 06 02 04	<i>Curriculum Specialist Assignment</i>	129
02. 06 02 05	<i>Media Production Assignment</i>	129
02. 06 02 06	<i>Evaluation Assignment</i>	130
02. 06 02 07	<i>Media Management Assignment</i>	130
02. 06 02 08	<i>Teaching Assignment</i>	130
02. 06 02 09	<i>Educational Program Planning Assignment</i>	130
02. 06 02 10	<i>Educational Management Analyst Assignment</i>	130
02. 06 02 11	<i>Personnel Assignment</i>	130
02. 06 02 12	<i>Staff Development Assignment</i>	130
02. 06 02 99	<i>Other Professional/Specialist Assignments</i>	131
02. 06 03	Technical Assignment	131
02. 06 03 01	<i>Media Production Technician Assignment</i>	131
02. 06 03 02	<i>Media Technical Assignment</i>	131
02. 06 03 03	<i>Media Maintenance Technical Assignment</i>	131
02. 06 03 04	<i>Teaching Assistant Assignment</i>	131
02. 06 03 05	<i>Computer Technical Assignment</i>	131
02. 06 03 99	<i>Other Technical Assignments</i>	131
02. 06 04	Office/Clerical Assignment	131
02. 06 05	Aide Assignment	132
02. 06 06	Crafts and Trades Assignment	132
02. 06 99	Other Staff Assignments	132

CLASSIFICATION OF TERMS ABOUT LEARNING RESOURCES DEVELOPMENT FUNCTIONS

Code Series 03.00

The items of information—terms and categories—in this section are used to classify data about the various activities in the Learning Resources Development Functions. These are the functions through which the learning resources are developed and brought into contact with the learner.

The six Learning Resources Development Functions are: Research, Design, Production, Evaluation, Logistics, and Utilization. Each plays a unique role in the development and use of the learning resources and their integration into units of instruction and into the total instructional program. (Functions relating to total programs are found in the Instructional Management Functions, 04.00.) The six development functions are listed in commonly followed sequence for the development and use of resources. However, the sequence is not mandatory and no function is to be interpreted as more important than another because of its place in the order of presentation. Each function has its share of activities requiring professional training. The codings for the functions and page numbers where each begins are as follows:

Code	Term	Definition page number
03.	Learning Resources Development Functions	132
03. 01	Research	132
03. 02	Design	139
03. 03	Production	143

Code	Term	Definition page number
03.04	Evaluation	175
03.05	Logistics	185
03.06	Utilization	190

A detailed breakdown of the items of information of each major classification above and more detailed information about the relationship of each classification to other handbooks is found in the introductory comments at the beginning of each function.

It should be remembered that the activities listed for each function are those which are commonly performed and that the list is not necessarily a prescription for the activities of a given organization or institution. Remember also that each term is defined in the next chapter and in case of doubt about the meaning of any term, the appropriate definition should be consulted.

CLASSIFICATION OF TERMS ABOUT RESEARCH

Code Series 03.01

The items of information—the terms and categories—in this section are used to classify data about the research function—one of the six learning resource development functions. The research function can relate to all of the elements of educational technology. However, the learner, the learning resources, and the interactions among them are often the subject of research on instruction. The purpose of the research function is to build and expand a body of knowledge which can be used in activities within the other functions.

This handbook makes a distinction between the research and the evaluation function. While there might seem to be overlap, there is an essential difference relating to the amount of influence the situation has on the conduct (including the design) of the study or inquiry. In research, the study generally dictates the structure of the situation in which the study is conducted. In evaluation, the situation generally determines the structure and conduct of the study. The following guidelines should help distinguish between research and evaluation:

Research	Evaluation
1. Problem selection and definition are determined by the researcher.	1. Problem selection and definition are determined by the situation or need.
2. Hypotheses to be tested are derived from theory or a body of knowledge.	2. Precise hypotheses relating to theory or a body of knowledge are difficult to generate.
3. The data to be collected are determined by the structure of the study.	3. The data to be collected are strongly influenced by the feasibility of collection and the needs of outside interests.
4. Relevant variables can be controlled and the effects of other variables eliminated or randomized.	4. Control of relevant variables may be minimal and effects of other variables are difficult to eliminate.
5. Study can be replicated with information from the previous study.	5. Situation is often unique and difficult to replicate.

Some educators regard evaluation as a specialized form of research while others regard research as an evaluation tool. This handbook does not attempt to resolve that question but separates the two functions to assist

users in gathering information about what are two operationally different approaches to the general problem of conducting studies to gain information.

The research function in this section is divided into four major subcategories:

- 1) the subject(s) or focus(es) of the research—limited here to research on the learner, learning resources, and units of instruction;
- 2) the general activities in the process of conducting research;
- 3) the phases (or stages) of research on learning and instruction;²⁴
- 4) the methods or approaches to the conduct of research studies or inquiries.²⁵

The terms—and their attendant definitions in chapter 4—are intended for use in distinguishing one category from another. For longer explanations of the terms, the definitions, and their sources, the user should consult the material referred to in the footnotes. All categories are descriptive, not prescriptive, and the handbook recognizes the need for a variety of approaches to research.

Code	Term	Definition page number
03. 01	RESEARCH	132
03. 01 01	Subject of Research	134
03. 01 01 01	Research on Learner	134
03. 01 01 02	Research on Learning Resources	134
03. 01 01 03	Research on Unit of Instruction	134
03. 01 01 99	Other Subjects of Research	134
03. 01 02	Process of Research	134
03. 01 02 01	Theory Construction	134
03. 01 02 01 01	Problem Perception	134
03. 01 02 01 02	Problem Definition	134
03. 01 02 01 03	Information Synthesis	134
03. 01 02 01 99	Other Theory Construction	135
03. 01 02 02	Theory Testing	135
03. 01 02 02 01	Hypothesis Formulation	135
03. 01 02 02 02	Literature Review	135
03. 01 02 02 03	Research Sample Selection	135
03. 01 02 02 04	Research Design Selection	135
03. 01 02 02 05	Research Resources Selection	135
03. 01 02 02 06	Implementation Arrangements	135
03. 01 02 02 07	Experimental Treatment	135
03. 01 02 02 08	Data Analysis	136
03. 01 02 02 09	Conclusion Formation	136
03. 01 02 02 10	Research Reportage	136
03. 01 02 02 99	Other Theory Testing	136
03. 01 02 99	Other Processes of Research	136
03. 01 03	Stages of Learning/Instruction Research	136
03. 01 03 01	Pure Research	136
03. 01 03 01 01	Animal/Autonomic Learning Research Stage	136

²⁴The phases of research on learning and instruction are adapted from Hilgard, Ernest R., "A Perspective on the Relationship between Learning Theory and Educational Practices," in Hilgard, Ernest R., ed., *Theories of Learning and Instruction*, the Sixty-third Yearbook of the National Society for the Study of Education, Part I. Chicago, Ill.: The University of Chicago Press, pp. 402-415.

²⁵The methods of research are adapted from Isaac, Stephen, and Michael, William B., *Handbook in Research and Evaluation*. San Diego, California: Robert R. Knapp, Publishers, 1971.

Code	Term	Definition page number
03. 01 03 01 02	Learning Principles Stage	136
03. 01 03 01 03	Human Learning Stage	137
03. 01 03 01 99	Other Pure Research	137
03. 01 03 02	<i>Applied Research</i>	137
03. 01 03 02 01	Developmental Stage	137
03. 01 03 02 02	Prototype Stage	137
03. 01 03 02 03	Adoption Stage	137
03. 01 03 02 99	Other Applied Research	137
03. 01 03 99	<i>Other Stages of Learning/Instruction Research</i>	137
03. 01 04	Methods of Research	137
03. 01 04 01	<i>Historical Research</i>	137
03. 01 04 02	<i>Descriptive Research</i>	138
03. 01 04 03	<i>Longitudinal Research</i>	138
03. 01 04 04	<i>Case and Field Research</i>	138
03. 01 04 05	<i>Correlational Research</i>	138
03. 01 04 06	<i>Causal-Comparative Research</i>	138
03. 01 04 07	<i>Experimental Research</i>	138
03. 01 04 08	<i>Action Research</i>	138
03. 01 04 99	<i>Other Methods of Research</i>	138
03. 01 99	Other Research	139

CLASSIFICATION OF TERMS ABOUT DESIGN

Code Series 03.02

The items of information—terms and categories—in this section are used to classify data about the design function—one of the six learning resources development functions. Design can relate to any elements of educational technology. It involves the development of specifications for total instructional programs as well as specifications for particular learning resources incorporated in those programs. In the design function, factors such as needs, objectives, learner characteristics, and learner-task requirements are analyzed and synthesized. The resulting specifications for learning resources and units of instruction reflect a concern for potential instructional effectiveness as well as for cost effectiveness.

While the steps in designing a specific learning resource and designing an entire program are closely related, the activities vary if only because of the scope of the end product. Selected activities in the design of total programs are found in the sections on organization management (04.01). This section emphasizes the design of learning resources, particularly materials and techniques. These two areas, taken together, reflect some of the major changes which have resulted from the application of technology to education.

The terms and categories in this section provide a listing of selected design activities. The major subcategories in the design function are:

Code	Term	Definition page number
03. 02 01	Needs Assessment	139
03. 02 02	Instructional Goal Identification	139
03. 02 03	Learner Analysis	139
03. 02 04	Learning Task Analysis	139
03. 02 05	Setting Analysis	139
03. 02 06	Specification of Learning Objectives	139

Code	Term	Definition page number
03. 02 07	Provision for Learner Assessment	142
03. 02 08	Specification of Instructional Sequence	143
03. 02 09	Selection of Presentation Format	143
03. 02 10	Statement of Design Specifications	143

These activities are the shared concern of a number of educators: the faculty who provide subject-matter expertise and a perspective of utilization, educational developers, curriculum specialists, and the production team which will make use of the design specifications. In an actual design situation, the activities are not necessarily performed in the sequence presented here nor is the list of activities meant to be exhaustive.

Code	Term	Definition page number
03. 02	DESIGN	139
03. 02 01	Needs Assessment	139
03. 02 02	Instructional Goal Identification	139
03. 02 03	Learner Analysis	139
03. 02 04	Learning Task Analysis	139
03. 02 05	Setting Analysis	139
03. 02 06	Specification of Learning Objectives	139
03. 02 06 01	Stage of Learning Objectives	141
03. 02 06 01 01	Prerequisite Objectives	141
03. 02 06 01 02	Enabling Objectives	141
03. 02 06 01 03	Terminal Objectives	141
03. 02 06 01 99	Other Learning Objectives	141
03. 02 06 02	Domain of Objectives	141
03. 02 06 02 01	Cognitive Objectives	141
03. 02 06 02 02	Affective Objectives	141
03. 02 06 02 03	Psychomotor Objectives	141
03. 02 06 02 99	Other Domains of Learning Objectives	142
03. 02 06 99	Other Specification of Learning Objectives	142
03. 02 07	Provision for Learner Assessment	142
03. 02 07 01	Stage of Learner Assessment	142
03. 02 07 01 01	Pretest	142
03. 02 07 01 02	Posttest	142
03. 02 07 01 03	Retention Test	142
03. 02 07 01 99	Other Stages of Learner Assessment	142
03. 02 07 02	Referent of Learner Assessment	142
03. 02 07 02 01	Criterion-Referenced Measurement	142
03. 02 07 02 02	Domain-Referenced Measurement	143
03. 02 07 02 03	Norm-Referenced Measurement	143
03. 02 07 02 99	Other Referents for Learner Assessment	143
03. 02 07 99	Other Provisions for Learner Assessment	143
03. 02 08	Specification of Instructional Sequence	143
03. 02 09	Selection of Presentation Format	143
03. 02 10	Statement of Design Specifications	143
03. 02 99	Other Design	143

CLASSIFICATION OF TERMS ABOUT PRODUCTION

Code Series 03.03

The items of information—terms and categories—in this section are used to classify data about the production function, one of the six learning resource development functions. The production function deals with translating specifications from designers into learning resources or units of instruction. This section particularly emphasizes the production of instructional materials.

Materials can be produced by the organization or institution or, more often, by commercial firms. In many institutions, there is an increase in the number of materials produced by the staff and the learners within the institution. This handbook focuses on some of the more common production methods and activities with one new and growing exception—the production of computer-assisted instruction materials. The six major subcategories of materials production listed here are:

Code	Term	Definition page number
03. 03 01	Graphic Production and Reproduction	144
03. 03 02	Audio/Radio Production	153
03. 03 03	Still Photography Production	158
03. 03 04	Motion Picture Production	163
03. 03 05	Television Production	168
03. 03 06	Computer-Assisted Instruction Production	172

There is no attempt to include all the details of each field in this handbook. However, the major categories are structured so that items can be added.

Each major subcategory above is subdivided into four sub-subcategories: activities, supplies, equipment, and sites. For reader convenience, the related classified terms in other parts of this handbook have been listed in this section. Terms for production supplies are taken from the Materials (02.01) section. Terms for production equipment are taken from the Devices (02.02) section. Terms for sites are taken from the Settings (02.04) section. (The terms for production activities are unique to the section.) To keep items mutually exclusive and to avoid redundancy, those items from other sections retain their own unique code numbers from that section. To further help the reader in identifying those terms, the code number is preceded by an asterisk.

One further word of caution in reading the terms in this section: Many well-established fields use activity terms which are the same as those used in other fields. However, in many instances the definition or the activity is different. For example, "editing" has the same generic meaning for books, audiotapes, motion pictures, or television. However, the specific skills and tasks—and consequently, the definitions—for each field differ. To keep terms and categories mutually exclusive, it was necessary, in some cases, either to modify a term slightly or to include the kind of production in front of the term—example, motion picture editing, television editing. This was done with as careful a regard as possible for individual fields but with an overriding concern for clarity in the terms and definitions needed for accurate data collection.

Code	Term	Definition page number
03. 03	PRODUCTION	143
03. 03 01	Graphic Production and Reproduction	144
03. 03 01 01	<i>Graphic Production and Reproduction Activities</i>	144
03. 03 01 01 01	Copying (Nonphotographic)	144
03. 03 01 01 01 01	<u>Thermal Copying</u>	144
03. 03 01 01 01 01 02	<u>Electrostatic Copying</u>	144
03. 03 01 01 01 01 03	<u>Wet Process Copying</u>	144
03. 03 01 01 01 01 99	<u>Other Copying</u>	144

Code	Term	Definition page number
03. 03 01 01 02	Duplicating	148
03. 03 01 01 02 01	<u>Diazo Process Duplication</u>	148
03. 03 01 01 02 02	<u>Spirit Duplication</u>	148
03. 03 01 01 02 03	<u>Rotary Stencil Duplication</u>	148
03. 03 01 01 02 04	<u>Offset Printing</u>	148
03. 03 01 01 02 99	<u>Other Duplicating</u>	148
03. 03 01 01 03	Laying Out	149
03. 03 01 01 04	Illustrating	149
03. 03 01 01 05	Lettering	149
03. 03 01 01 06	Mounting	149
03. 03 01 01 07	Laminating	149
03. 03 01 01 99	Other Graphic Production and Reproduction Activities	149
03. 03 01 02	<i>Graphic Production and Reproduction Supplies</i>	149
*02. 01 02 04 01	Art and Graphic Art Supplies	77, 149
*02. 01 02 04 02	Diazo Supplies	77, 150
*02. 01 02 04 03	Thermal Copy Supplies	77, 150
*02. 01 02 04 04	Electrostatic Copy Supplies	78, 150
*02. 01 02 04 05	Wet Process Copy Supplies	78, 150
*02. 01 02 04 06	Spirit Duplication Supplies	78, 150
*02. 01 02 04 07	Rotary Stencil Duplication Supplies	78, 150
*02. 01 02 04 08	Offset Printing Supplies	78, 150
*02. 01 02 04 09	Mounting/Laminating Supplies	78, 150
03. 03 01 02 99	Other Graphic Production and Reproduction Supplies	150
03. 03 01 03	<i>Graphic Production and Reproduction Equipment</i>	151
*02. 02 03 01	Diazo Printer	86, 151
*02. 02 03 02	Spirit Duplicator	86, 151
*02. 02 03 03	Rotary Stencil Duplicator	87, 151
*02. 02 03 04	Electrostatic Copier	87, 151
*02. 02 03 05	Thermal Copier	87, 151
*02. 02 03 06	Wet Process Copier	87, 151
*02. 02 03 07	Offset Press	87, 151
*02. 02 03 08	Sign Maker	87, 151
*02. 02 03 09	Mechanical Lettering Device	87, 151
*02. 02 03 10	Photographic Lettering Device	87, 152
*02. 02 03 11	Drafting Machine	87, 152
*02. 02 03 12	Drawing Board/Table	87, 152
*02. 02 03 13	Light Box	88, 152
*02. 02 03 14	Dry Mount Press	88, 152
*02. 02 03 15	Laminator	88, 152
*02. 02 03 16	Image Modification Device	88, 152
03. 03 01 03 99	Other Graphic Production and Reproduction Equipment	152
03. 03 01 04	<i>Graphic Production and Reproduction Sites</i>	152
*02. 04 02 06	Graphic Production Area	115, 153
*02. 04 02 11	Print Shop	115, 153
03. 03 01 04 99	Other Graphic Production and Reproduction Sites	153
03. 03 01 99	<i>Other Graphic Production and Reproduction</i>	153
03. 03 02	<i>Audio/Radio Production</i>	153
03. 03 02 01	<i>Audio/Radio Production Activities</i>	153
03. 03 02 01 01	Audio/Radio Producing	153
03. 03 02 01 02	Audio/Radio Directing	153
03. 03 02 01 03	Audio/Radio Script Writing	153

Code	Term	Definition page number
03. 03 02 01 04	Sound Recording	154
03. 03 02 01 05	Audiotape Editing	154
03. 03 02 01 06	Audiotape Duplicating	154
03. 03 02 01 07	Audio/Radio Engineering	154
03. 03 02 01 99	Other Audio/Radio Production Activities	154
03. 03 02 02	<i>Audio/Radio Production Supplies</i>	154
*02. 01 02 01 01	Audiocard, Unrecorded	75, 154
*02. 01 02 01 02	Audiotape, Unrecorded	75, 155
*02. 01 02 01 03	Audiopage, Unrecorded	75, 155
03. 03 02 02 99	Other Audio/Radio Production Supplies	155
03. 03 02 03	<i>Audio/Radio Production Equipment</i>	155
*02. 02 01 01	Audiotape Recorder	80, 155
*02. 02 01 02	Audiotape Player	83, 155
*02. 02 01 03	Audiocard Recorder	83, 155
*02. 02 01 04	Audiopage Recorder	83, 155
*02. 02 01 05	Audiodisc Player	83, 155
*02. 02 01 06	Audio Transcriber	84, 156
*02. 02 01 07	Audiotape Duplicator	84, 156
*02. 02 01 08	Audio Console	85, 156
*02. 02 01 09	Audio Amplification Equipment	84, 156
*02. 02 01 10	Audio Mixer	84, 156
*02. 02 01 11	Audio Compressor	84, 156
*02. 02 01 14	Headset	85, 156
*02. 01 01 15	Loudspeaker	85, 156
*02. 02 01 16	Microphone	85, 157
03. 03 02 03 99	Other Audio/Radio Production Equipment	157
03. 03 02 04	<i>Audio/Radio Production Sites</i>	157
*02. 04 02 01	Audio Control Room	114, 157
*02. 04 02 08	Mobile Studio	115, 157
*02. 04 02 13	Radio Studio	116, 157
*02. 04 02 14	Remote Location	116, 157
*02. 04 02 15	Sound Studio	116, 157
03. 03 02 04 99	Other Audio/Radio Production Sites	157
03. 03 02 99	<i>Other Audio/Radio Production</i>	158
03. 03 03	<i>Still Photography Production</i>	158
03. 03 03 01	<i>Still Photography Production Activities</i>	158
03. 03 03 01 01	Still Photography Producing	158
03. 03 03 01 02	Photographic Script Writing	158
03. 03 03 01 03	Photographic Lighting	158
03. 03 03 01 04	Photographing	158
03. 03 03 01 05	Photographic Copying	158
03. 03 03 01 06	Photographic Printing	159
03. 03 03 01 07	Photographic Processing	159
03. 03 03 01 08	Presentation Programing	159
03. 03 03 01 99	Other Still Photography Production Activities	159
03. 03 03 02	<i>Still Photography Production Supplies</i>	159
*02. 01 02 05 01 04	Still Photographic Film	79, 159
*02. 01 02 05 02	Photographic Paper	79, 159
*02. 01 02 05 03	Photographic Chemicals	79, 159
*02. 01 02 05 04	Flashlamp	79, 160

Code	Term	Definition page number
03. 03 03 02 99	Other Still Photography Production Supplies	160
03. 03 03 03	Still Photography Production Equipment	160
*02. 02 05 01 02	Camera, Still Photographic	91, 160
*02. 02 05 02	Camera Lens, Interchangeable	92, 160
*02. 02 05 03	Exposure Meter	92, 160
*02. 02 05 04	Electronic Flash	92, 160
*02. 02 05 05	Lighting Equipment	92, 161
*02. 02 05 06	Camera Support	92, 161
*02. 02 05 07	Copystand	93, 161
*02. 02 05 09	Slide Duplicator	93, 161
*02. 02 05 10	Enlarger	93, 161
*02. 02 05 11	Darkroom Equipment	93, 161
*02. 02 05 12	Photographic Processor	93, 161
*02. 02 06 05	Sound Synchronizer	97, 161
*02. 02 06 06	Projector Dissolve Control	97, 161
*02. 02 06 07	Projection/Sound Programmer	97, 162
03. 03 03 03 99	Other Still Photography Production Equipment	162
03. 03 03 04	Still Photography Production Sites	162
*02. 04 02 04	Darkroom	115, 162
*02. 04 02 10	Photographic Studio	115, 162
*02. 04 02 14	Remote Location	116, 162
03. 03 03 04 99	Other Still Photography Production Sites	162
03. 03 03 99	Other Still Photography Production	162
03. 03 04	Motion Picture Production	163
03. 03 04 01	Motion Picture Production Activities	163
03. 03 04 01 01	Motion Picture Producing	163
02. 03 04 01 02	Motion Picture Directing	163
03. 03 04 01 03	Motion Picture Script Writing	163
03. 03 04 01 04	Motion Picture Lighting	163
03. 03 04 01 05	Filming	163
03. 03 04 01 06	Motion Picture Sound Recording	163
03. 03 04 01 07	Motion Picture Editing	163
03. 03 04 01 08	Animating	164
03. 03 04 01 99	Other Motion Picture Production Activities	164
03. 03 04 02	Motion Picture Production Supplies	164
*02. 01 02 05 01 01	Motion Picture Film, 16mm	79, 164
*02. 01 02 05 01 02	Motion Picture Film, 8mm	79, 164
*02. 01 02 05 01 03	Motion Picture Film, Super/Single 8mm	79, 164
*02. 01 02 01 02	Audiotape, Unrecorded	75, 164
*02. 01 02 01 04	Magnetic Film, Unrecorded	75, 164
03. 03 04 02 99	Other Motion Picture Production Supplies	165
03. 03 04 03	Motion Picture Production Equipment	165
*02. 02 01 01	Audiotape Recorder	80, 165
*02. 02 01 01 04	Audiotape Recorder, Magnetic Film	83, 165
*02. 02 01 08	Audio Console	84, 165
*02. 02 01 09	Audio Amplification Equipment	84, 165
*02. 02 01 10	Audio Mixer	84, 165
*02. 02 01 14	Headset	85, 165
*02. 02 01 15	Loudspeaker	85, 166

Code	Term	Definition page number
*02. 02 01 16	<i>Microphone</i>	85, 166
*02. 02 05 01 01	<i>Camera, Motion Picture</i>	91, 166
*02. 02 05 02	<i>Camera Lens, Interchangeable</i>	92, 166
*02. 02 05 03	<i>Exposure Meter</i>	92, 166
*02. 02 05 05	<i>Lighting Equipment</i>	92, 166
*02. 02 05 06	<i>Camera Support</i>	92, 166
*02. 02 05 08	<i>Animation Stand</i>	93, 167
*02. 02 05 13	<i>Motion Picture Processor</i>	93, 167
*02. 02 05 14	<i>Motion Picture Editor</i>	93, 167
03. 03 04 03 99	<i>Other Motion Picture Production Equipment</i>	167
03. 03 04 04	<i>Motion Picture Production Sites</i>	167
*02. 04 02 08	<i>Mobile Studio</i>	115, 167
*02. 04 02 09	<i>Motion Picture Studio</i>	115, 167
*02. 04 02 14	<i>Remote Location</i>	116, 167
03. 03 04 04 99	<i>Other Motion Picture Production Sites</i>	167
03. 03 04 99	<i>Other Motion Picture Production</i>	168
03. 03 05	Television Production	168
03. 03 05 01	<i>Television Production Activities</i>	168
03. 03 05 01 01	<i>Television Producing</i>	168
03. 03 05 01 02	<i>Television Directing</i>	168
03. 03 05 01 03	<i>Television Script Writing</i>	168
03. 03 05 01 04	<i>Television Lighting</i>	168
03. 03 05 01 05	<i>Television Camera Operating</i>	168
03. 03 05 01 06	<i>Television Engineering</i>	168
03. 03 05 01 07	<i>Videorecording</i>	169
03. 03 05 01 08	<i>Videotape Editing</i>	169
03. 03 05 01 09	<i>Videotape Duplicating</i>	169
03. 03 05 01 99	<i>Other Television Production Activities</i>	169
03. 03 05 02	<i>Television Production Supplies</i>	169
*02. 01 02 03 01	<i>Videotape, Unrecorded</i>	76, 169
03. 03 05 02 99	<i>Other Television Production Supplies</i>	169
03. 03 05 03	<i>Television Production Equipment</i>	169
*02. 02 04 01	<i>Videotape Recorder</i>	88, 170
*02. 02 04 03	<i>Videotape Editor</i>	89, 170
*02. 02 04 04	<i>Videotape Duplicator</i>	89, 170
*02. 02 04 05	<i>Television Camera</i>	89, 170
*02. 02 04 06	<i>Television Camera Support</i>	90, 170
*02. 02 04 08	<i>Television Monitor</i>	90, 170
*02. 02 04 09	<i>Film Chain</i>	90, 170
*02. 02 04 10	<i>Television Console</i>	90, 170
*02. 02 04 11	<i>Television Switcher</i>	90, 171
*02. 02 05 02	<i>Camera Lens</i>	92, 171
*02. 02 05 03	<i>Exposure Meter</i>	92, 171
*02. 02 05 05	<i>Lighting Equipment</i>	92, 171
03. 03 05 03 99	<i>Other Television Production Equipment</i>	171
03. 03 05 04	<i>Television Production Sites</i>	171
*02. 04 02 08	<i>Mobile Studio</i>	115, 171
*02. 04 02 14	<i>Remote Location</i>	116, 171
*02. 04 02 16	<i>Television Control Room</i>	116, 172

Code		Definition page number
*02. 04 02 17	<i>Television Studio</i>	116, 172
03. 03 05 04 99	Other Television Production Sites	172
03. 03 05 99	<i>Other Television Production</i>	172
03. 03 06	Computer-Assisted Instruction (CAI) Production	172
03. 03 06 01	<i>Computer-Assisted Instruction Production Activities</i>	172
03. 03 06 01 01	Computer-Assisted Instruction Sequencing	172
03. 03 06 01 02	Computer-Assisted Instruction Branching	172
03. 03 06 01 03	Computer-Assisted Instruction Frame Writing	173
03. 03 06 01 04	Computer-Assisted Instruction Coding	173
03. 03 06 01 05	Computer-Assisted Instruction Entering	173
03. 03 06 01 06	Computer-Assisted Instruction Listing	173
03. 03 06 01 07	Computer-Assisted Instruction Checking	173
03. 03 06 01 08	Computer-Assisted Instruction Lesson Testing	173
03. 03 06 01 09	Computer-Assisted Instruction Debugging	173
03. 03 06 01 99	Other Computer-Assisted Instruction Production Activities	173
03. 03 06 02	<i>Computer-Assisted Instruction Production Supplies</i>	173
*02. 01 02 02 03	Computer Magnetic Tape, Unrecorded	76, 173
*02. 01 02 02 04	Computer Output Forms	76, 174
03. 03 06 02 99	Other Computer-Assisted Instruction Production Supplies	174
03. 03 06 03	<i>Computer-Assisted Instruction Production Equipment</i>	174
*02. 02 02 01	<i>Computer</i>	85, 174
*02. 02 02 02	<i>Computer Terminal</i>	86, 174
*02. 02 02 03	<i>Computer-Input Device</i>	86, 174
*02. 02 02 04	<i>Computer-Output Device</i>	86, 174
03. 03 06 03 99	Other Computer-Assisted Instruction Production Equipment	175
03. 03 06 04	<i>Computer-Assisted Instruction Sites</i>	175
*02. 04 02 02	<i>Computer Center</i>	114, 175
03. 03 06 04 99	Other Computer-Assisted Instruction Production Sites	175
03. 03 06 99	<i>Other Computer-Assisted Instruction Production</i>	175
03. 03 99	Other Production	175

CLASSIFICATION OF TERMS ABOUT EVALUATION

Code Series 03.04

The items of information—terms and categories—in this section are used to classify data about the evaluation function—one of the six learning resource development functions. The concern of evaluation is to provide specific, reliable information on a chosen topic for decisionmaking in other functions. While evaluation can apply to any element of educational technology, the emphasis here is on the assessment of learning resources (except for staff)²⁶ and units of instruction according to specified criteria.

Evaluation is largely structured by the situation in which the evaluation is performed as well as by the purpose for which the evaluation is performed. In this way, evaluation differs from research. The essential difference between the evaluation function and the research function (in this handbook) is the amount of influence which the situation has upon the study or inquiry being conducted. In evaluation, the situation generally dictates the conduct of the study or inquiry while in research, the study determines the structure of the situation.²⁷

²⁶ The evaluation of staff is listed as part of Personnel Management, 04. 02.

²⁷ The guidelines and the general distinction are derived from Hemphill, John K., "The Relationships Between Research and Evaluation Studies," in Ralph W. Tyler, ed., *Educational Evaluation: New Roles, New Means*, the Sixty-eighth Yearbook of the National Society for the Study of Instruction, Part II. Chicago, Ill.: The University of Chicago Press, 1969, pp. 189-220.

The following guidelines should help to clarify the distinction between the two:

Evaluation	Research
1. Problem selection and definition are determined by the situation or need.	1. Problem selection and definition are determined by the researcher.
2. Precise hypotheses relating to theory or a body of knowledge are difficult to generate.	2. Hypotheses to be tested are derived from theory or a body of knowledge.
3. The data to be collected are strongly influenced by the feasibility of collection and the needs of outside interests.	3. The data to be collected are determined by the structure of the study.
4. Control of relevant variables may be minimal and effects of other variables are difficult to eliminate.	4. Relevant variables can be controlled and effects of other variables eliminated or randomized.
5. Situation is often unique and difficult to replicate.	5. Study can be replicated with information from previous study.

Evaluation is often addressed to the need for a collection of information to fit into a decisionmaking system. Thus, the categories (and their subdivisions) in this section reflect that need by using four subcategories: 1) the aspects of the item or subject under evaluation; 2) the purpose of the evaluation; 3) the stage of evaluation in the development of materials; and 4) the sources of information which could contribute to evaluation.

As the need for better and more precise evaluation grows, the number of terms and categories within evaluation will undoubtedly grow as well.

A note of caution: evaluation in this handbook is concerned with establishing categories for collecting data about evaluation. As such, it sets no criteria for making value judgments or assessment. Setting criteria and standards is the prerogative of the person, institution, or organization conducting the evaluation. The intent of this handbook is *only* to offer the evaluator categories in which to report the data from his inquiry.

Code	Term	Definition page number
03. 04	EVALUATION	175
03. 04 01	Aspects of Items Under Evaluation	177
03. 04 01 01	<i>Aspects of Learner</i>	177
03. 04 01 02	<i>Aspects of Learning Resources</i>	177
03. 04 01 02 01	<i>Aspects of Materials</i>	177
03. 04 01 02 01 01	<u>Cost of Access</u>	177
03. 04 01 02 01 02	<u>Cost of Maintenance</u>	177
03. 04 01 02 01 03	<u>Shelf Life</u>	177
03. 04 01 02 01 04	<u>Use Life</u>	177
03. 04 01 02 01 05	<u>Technical Quality</u>	177
03. 04 01 02 01 06	<u>Learner Performance Gains</u>	177
03. 04 01 02 01 07	<u>Compatibility with Learner</u>	178
03. 04 01 02 01 08	<u>Compatibility with Learning Objectives</u>	178
03. 04 01 02 01 09	<u>Compatibility with Other Learning Resources</u>	178
03. 04 01 02 01 10	<u>Availability of Needed Devices</u>	178
03. 04 01 02 01 99	<u>Other Aspects of Materials</u>	178
03. 04 01 02 02	Aspects of Devices	178

Code	Term	Definition page number
03. 04 01 02 02 01	<u>Cost of Access</u>	178
03. 04 01 02 02 02	<u>Cost of Maintenance</u>	178
03. 04 01 02 02 03	<u>Cost of Operation</u>	178
03. 04 01 02 02 04	<u>Ease of Operation</u>	179
03. 04 01 02 02 05	<u>Use Life</u>	179
03. 04 01 02 02 06	<u>Tamper Resistance</u>	179
03. 04 01 02 02 07	<u>Frequency of Repair</u>	179
03. 04 01 02 02 08	<u>Time for Repair</u>	179
03. 04 01 02 02 09	<u>Ease of Repair</u>	179
03. 04 01 02 02 10	<u>Availability of Repair Service</u>	179
03. 04 01 02 02 11	<u>Availability of Replacement Parts</u>	179
03. 04 01 02 02 12	<u>Obsolescence</u>	179
03. 04 01 02 02 13	<u>Portability</u>	179
03. 04 01 02 02 14	<u>Safety of Use</u>	179
03. 04 01 02 02 15	<u>Availability of Materials for Devices</u>	180
03. 04 01 02 02 16	<u>Compatibility of Device with Other Learning Resources</u>	180
03. 04 01 02 02 99	<u>Other Aspects of Devices</u>	180
03. 04 01 02 03	<u>Aspects of Techniques</u>	180
03. 04 01 02 03 01	<u>Compatibility with Learner</u>	180
03. 04 01 02 03 02	<u>Compatibility with Learning Objectives</u>	180
03. 04 01 02 03 03	<u>Compatibility with Other Learning Resources</u>	180
03. 04 01 02 03 99	<u>Other Aspects of Techniques</u>	180
03. 04 01 02 04	<u>Aspects of Setting</u>	180
03. 04 01 02 04 01	<u>Cost of Access</u>	180
03. 04 01 02 04 02	<u>Cost of Maintenance</u>	181
03. 04 01 02 04 03	<u>Occupant Safety</u>	181
03. 04 01 02 04 04	<u>Building Codes</u>	181
03. 04 01 02 04 05	<u>Lighting</u>	181
03. 04 01 02 04 06	<u>Electric Power</u>	181
03. 04 01 02 04 07	<u>Acoustics</u>	181
03. 04 01 02 04 08	<u>Provision for Electronic Delivery</u>	181
03. 04 01 02 04 09	<u>Compatibility with Learner</u>	181
03. 04 01 02 04 10	<u>Compatibility with Other Learning Resources</u>	181
03. 04 01 02 04 99	<u>Other Aspects of Settings</u>	181
03. 04 01 02 05	<u>Aspects of Content</u>	181
03. 04 01 02 05 01	<u>Accuracy of Content</u>	182
03. 04 01 02 05 02	<u>Social Acceptance of Content</u>	182
03. 04 01 02 05 03	<u>Compatibility with Learner</u>	182
03. 04 01 02 05 04	<u>Compatibility with Other Learning Resources</u>	182
03. 04 01 02 05 99	<u>Other Aspects of Content</u>	182
03. 04 01 02 99	<u>Other Aspects of Learning Resources</u>	182
03. 04 01 03	<u>Aspects of Units of Instruction</u>	182
03. 04 01 03 01	<u>Compatibility with Learner</u>	182
03. 04 01 03 02	<u>Compatibility with Other Programs</u>	182
03. 04 01 03 03	<u>Social Acceptance of Unit of Instruction</u>	182
03. 04 01 03 04	<u>Compatibility of Unit of Instruction with Institution</u>	183
03. 04 01 03 99	<u>Other Aspects of Units of Instruction</u>	183
03. 04 01 99	<u>Other Aspects of Items Under Evaluation</u>	183
03. 04 02	<u>Purposes of Evaluation</u>	183

Code	Term	Definition page number
03. 04 02 01	<i>Evaluation for Revision</i>	183
03. 04 02 02	<i>Evaluation for Acquisition or Adoption</i>	183
03. 04 02 03	<i>Evaluation for Continued Use</i>	183
03. 04 02 04	<i>Evaluation for Cost Effectiveness</i>	183
03. 04 02 05	<i>Evaluation for Cost Benefit</i>	183
03. 04 02 99	<i>Other Purposes for Evaluation</i>	183
03. 04 03	Stages of Evaluation in Development of Materials	183
03. 04 03 01	<i>Developmental Testing</i>	184
03. 04 03 02	<i>Field Testing</i>	184
03. 04 03 03	<i>Validation Testing</i>	184
03. 04 03 99	<i>Other Stages of Evaluation in the Development of Materials</i>	184
03. 04 04	Sources of Evaluation	184
03. 04 04 01	<i>Expert Opinion</i>	184
03. 04 04 02	<i>Literature Review</i>	184
03. 04 04 03	<i>User Survey</i>	184
03. 04 04 04	<i>Personal Observation</i>	184
03. 04 04 05	<i>Controlled Testing</i>	184
03. 04 04 99	<i>Other Sources of Evaluation</i>	185
03. 04 99	Other Evaluation	185

CLASSIFICATION OF TERMS ABOUT LOGISTICS

Code Series 03.05

The items of information—terms and categories—in this section are used to classify data about the logistics functions, one of the six learning resources development functions. Logistics refers to the total process involved in making learning resources ready for instructional use. Activities as diverse as obtaining reproduction rights to maintaining television cameras are all part of the logistics function. While logistics applies conceptually to all of the learning resources, it is most commonly applied in practice to the materials, devices, and (through electronic distribution) content.

Within this context, six major subcategories of the logistics function are listed: acquisition, processing, housing, scheduling, distribution, and maintenance. The first four deal for the most part with physical objects and as such have similar, but not identical, activities for most learning resources.²⁸ The fifth subcategory, distribution, has two major subdivisions—electronic distribution of a message²⁹ and the physical delivery of an actual item. The differentiation is needed to provide categories for data collection about the increasing number of ways to disseminate instruction and educational information. The sixth category, maintenance, includes only physical items, usually devices. This handbook deals particularly with the fifth and sixth subcategories—distribution and maintenance.³⁰

Handbook users should add the terms needed, especially in the subcategories—acquisition, processing, storage, scheduling—taking care to stay within the categories shown and within other related categories in the *Library Statistics Operations Handbook*.³¹

²⁸ For example, tasks related to the cataloging of print and nonprint materials differ somewhat although the general cataloging rules apply. For more information about data collection in these four areas consult Frase, Robert W., ed., *Library Statistics Operations Handbook* (field review edition).

²⁹ A message can usually be classified using the categories of Content, 02. 05, and often using the categories of Technique, 02. 03, as well.

³⁰ For more information about data collection for the first four subcategories, acquisition, processing, housing, scheduling, see *Library Statistics Operations Handbook* (field review edition).

³¹ *Library Statistics Operations Handbook* (field review edition).

Code	Term	Definition page number
03. 05	RESOURCES	185
03. 05 01	Acquisition of Learning Resources	185
03. 05 02	Processing of Learning Resources	185
03. 05 03	Housing of Learning Resources	185
03. 05 04	Scheduling of Learning Resources	185
03. 05 05	Distribution of Learning Resources	187
03. 05 05 01	Electronic Distribution	187
03. 05 05 01 01	Television Distribution	187
03. 05 05 01 01 01	Commercial Television Distribution	187
03. 05 05 01 01 02	Public Television Distribution	187
03. 05 05 01 01 03	Closed-Circuit Television Distribution	187
03. 05 05 01 01 04	Community Antenna Television Distribution	187
03. 05 05 01 01 05	Instructional Television Fixed Service Distribution	188
03. 05 05 01 01 99	Other Television Distribution	188
03. 05 05 01 02	Radio Distribution	188
03. 05 05 01 02 01	Commercial Radio Distribution	188
03. 05 05 01 02 02	Public Radio Distribution	188
03. 05 05 01 02 99	Other Radio Distribution	188
03. 05 05 01 03	Satellite Relay Distribution	188
03. 05 05 01 04	Information Network Distribution	188
03. 05 05 01 05	Closed-Circuit Audio Distribution	189
03. 05 05 01 99	Other Electronic Distribution	189
03. 05 05 02	Delivery	189
03. 05 05 02 01	Intrainstitutional Delivery	189
03. 05 05 02 02	Local Delivery	189
03. 05 05 02 03	Regional Delivery	189
03. 05 05 02 99	Other Delivery	189
03. 05 05 99	Other Distribution	189
03. 05 06	Maintenance of Learning Resources	189
03. 05 06 01	Intrainstitutional Maintenance	189
03. 05 06 02	Maintenance by Repair Service	190
03. 05 06 03	Maintenance by Manufacturer	190
03. 05 06 99	Other Maintenance of Learning Resources	190
03. 05 99	Other Logistics	190

CLASSIFICATION OF TERMS ABOUT UTILIZATION

Code Series 03.06

The items of information—terms and categories—in this section are used to classify data about the utilization function, one of the six learning resources development functions. Utilization refers to the actual use of learning resources, particularly materials, by the learner and instructor. Utilization is similar to the design function in that both are concerned with specifications for learning resources. The difference is that design is concerned with specifications for the production of a particular learning resource, while utilization is concerned with specifications for its use in specific learning situations. The nature of utilization is rapidly changing. Traditionally, the teacher has been the arbiter of how learning resources are used in the classroom. Such decisions are now made increasingly by a team of educators at the curriculum planning level. Trends toward the individualization of instruction and independent study have the learner assuming a greater share of the responsibility for the use of learning resources and for his own program.

The changing nature of the utilization means that an exhaustive, definitive list of activities is difficult to keep up to date. The generalized activities which follow represent the major categories in the utilization function. They need not be performed in the sequence shown nor are all the activities necessarily performed by the same person in any given situation. Also, some utilization activities may actually be performed by the learner either on an individual basis or with his instructor or other staff member.

Code	Term	Definition page number
03. 06	UTILIZATION	190
03. 06 01	Selection of Objectives for Learner	190
03. 06 02	Selection of Resources	190
03. 06 03	Determination of Group Size	192
03. 06 03 01	Large Group	192
03. 06 03 02	Small Group	192
03. 06 03 03	Individual Learner	192
03. 06 03 99	Other Determination of Group Size	192
03. 06 04	Modification of Resource	192
03. 06 05	Determination of Pacing	192
03. 06 06	Preparation for Use of the Resource	192
03. 06 07	Presentation of the Resource	193
03. 06 08	Monitoring of Learner Progress	193
03. 06 09	Facilitation of Learner Response	193
03. 06 10	Assessment of Learning	193
03. 06 11	Remediation of Learning Deficiencies	193
03. 06 99	Other Utilization	193

CLASSIFICATION OF TERMS ABOUT INSTRUCTIONAL MANAGEMENT FUNCTIONS

Code Series 04.00

The items of information—terms and categories—in this section are used to classify data about the various activities in the Instructional Management Functions. The Instructional Management Functions are responsible for the coordination of the activities of the six learning resources development functions as well as for the planning and implementation of total programs of instruction.

The category, instructional management functions, is divided into two major classifications: organization management and personnel management. Organization management is the function which deals with the activities in general management and in the planning and implementation of instructional programs. Personnel management deals exclusively with the management of staff members and with the employer-employee relationship. Together, the two functions include the majority of activities in managing the information, the staff, and the physical resources in instructional programs.

The trend in management of instructional programs is toward a team approach, drawing upon specialists who, working together, plan and carry out the goals of the organization. The need for central administration and administrative services still exists but the decisionmaking base is becoming wider.

The classification pattern and categories in instructional management can accommodate both central services and new trends in management. The coding for the instructional management functions and the page numbers where each begins are:

Code	Term	Definition page number
04.	Instructional Management Functions	193
04. 01	Organization Management	194
04. 02	Personnel Management	198

A detailed breakdown of the items of information of each major classification above and more detailed information about the relationship of each classification to other handbooks is found in the introductory material at the beginning of each section. The user may add terms but should stay within the categories given. If terms are to be added, any sources suggested in the introductory material should be consulted. Before adding terms, the definitions for related terms should be carefully checked to insure that there is not already a category which might be used to classify the information needed.

The terms that follow do include the majority of generalized activities in instructional management. However, any given institution will have its own sequence of activities and its program emphases. The list is not intended to be a prescription for operations but to provide a structure for data collection.

CLASSIFICATION OF TERMS ABOUT ORGANIZATION MANAGEMENT

Code Series 04.01

The items of information—terms and categories—in this section are used to classify data about the organization management functions, one of the two instructional management functions. Organization management is concerned with the overall management of an instructional program and/or the management of an organization or an institution involved in some phase of educational technology.

This comprehensive planning and subsequent implementation involve the coordination of activities which may occur in any number of learning resource development functions as well as in instructional management functions. Many of the activities in organization management draw upon the broader field of general management and systems design and implementation.

Many of the specific terms which follow and some of the structure are derived from Handbook VII,³² especially those parts of that handbook which deal with policy formation, management, and administration. The terms provide a listing of selected generalized activities in the organization management function. In an actual management situation, the activities may not be performed in the same sequence given, nor performed with equal weight, nor may all the activities be performed by the staff of the organization or institution. The categories are intended to provide an overall structure for data collection and not a prescription of management.

Code	Term	Definition page number
04. 01	MANAGEMENT	194
04. 01 01	Development of Goals and Policies	194
04. 01 01 01	<i>Development of Goals/Policies about Organizational/Institutional Role(s) and Purposes(s)</i>	194
04. 01 01 02	<i>Development of Goals/Policies about Instructional Programs</i>	194
04. 01 01 03	<i>Development of Goals/Policies about Units of Instruction</i>	194
04. 01 01 04	<i>Development of Goals/Policies about Learners</i>	194
04. 01 01 05	<i>Development of Goals/Policies about Learning Resources</i>	194
04. 01 01 06	<i>Development of Goals/Policies about Learning Resources Development Functions</i>	196
04. 01 01 07	<i>Development of Goals/Policies about Instructional Management Functions</i>	196
04. 01 01 99	<i>Other Development of Goals and Policies</i>	196
04. 01 02	Implementation of Goals and Policies	196
04. 01 02 01	<i>Planning for Implementation</i>	196
04. 01 02 02	<i>Providing Information for Implementation</i>	196
04. 01 02 03	<i>Application of Implementation</i>	196

³² Harris, Yeuell Y., and Seibert, Ivan N., *The State Education Agency: A Handbook of Standard Terminology and a Guide for Recording and Reporting Information about State Education Agencies.*

Code	Term	Definition page number
04. 01 02 04	<i>Assessment of Implementation</i>	196
04. 01 02 99	<i>Other Implementation of Goals and Policies</i>	197
04. 01 03	<i>Maintenance of Management Services</i>	197
04. 01 03 01	<i>Information Services</i>	197
04. 01 03 02	<i>Fiscal Services</i>	197
04. 01 03 03	<i>Property Management Services</i>	197
04. 01 03 04	<i>Legal Services</i>	197
04. 01 03 05	<i>Records Services</i>	197
04. 01 03 99	<i>Other Maintenance of Management Services</i>	197
04. 01 04	<i>Coordination of Programs and Activities</i>	198
04. 01 04 01	<i>Internal Coordination</i>	198
04. 01 04 02	<i>Interorganizational/Interinstitutional Coordination</i>	198
04. 01 04 99	<i>Other Coordination of Programs and Activities</i>	198
04. 01 99	<i>Other Organization Management</i>	198

CLASSIFICATION OF TERMS ABOUT PERSONNEL MANAGEMENT

Code Series 04.02

The items of information—terms and categories—in this section are used to classify data about the personnel management function, one of the two instructional management functions. Personnel management deals with the coordination and supervision of staff members performing activities in any of the six learning resources development functions and/or the two instructional management functions or working in an instructional organization or institution.

The generalized activities listed in the personnel management section reflect the need for continuous interaction between employer and staff member for their mutual understanding and benefit. This section is not intended to serve as a guide for managing personnel but establishes categories for data collection about the activities performed in that area.

The major subcategories of personnel management in this handbook are:

- 1) Employment, emphasizing the actual employment activities from recruitment through separation;
- 2) Placement, the category for activities including evaluation and promotion, relating to the assignment of a staff member;
- 3) Development, emphasizing an employer's efforts to improve the quality of staff members through a variety of training opportunities;
- 4) Accounting, stressing the record-keeping activity of personnel management. The subdivisions of Personnel Accounting, 02. 0404, are taken directly from Handbook IVR.³³

The terms which follow are not exhaustive but provide a general structure for personnel management activities. Handbook IVR (staff accounting) has a detailed treatment of the topic. The terms used here and the definitions in chapter 4 are for the most part compatible with that handbook. Users of this handbook needing to add more categories for data collection in personnel management should do so within the structure in this handbook and should consult Handbook IVR for more information.

³³ Roberts, Charles T., *Staff Accounting: Classifications and Standard Terminology for Local and State School Systems*. Even though this handbook deals primarily with local and State school systems, the definitions are generally applicable and adaptable to other instructional institutions or organizations. Another source is Minter, John W., *A Manual for Manpower Accounting in Higher Education* (Preliminary Edition), Washington: U.S. Office of Education, 1971.

Code	Term	Definition page number
04. 02	PERSONNEL MANAGEMENT	198
04. 02 01	Personnel Employment	198
04. 02 01 01	<i>Personnel Recruitment</i>	200
04. 02 01 02	<i>Personnel Selection</i>	200
04. 02 01 03	<i>Personnel Separation</i>	200
04. 02 01 99	<i>Other Personnel Employment</i>	200
04. 02 02	Personnel Placement	200
04. 02 03	Personnel Development	200
04. 02 03 01	<i>Preservice Training/Orientation</i>	200
04. 02 03 02	<i>Inservice Training</i>	200
04. 02 03 99	<i>Other Personnel Development</i>	201
04. 02 04	Personnel Accounting	201
04. 02 04 01	<i>Personnel Personal and Health Information Accounting</i>	201
04. 02 04 02	<i>Personnel Education and Experience Accounting</i>	201
04. 02 04 03	<i>Personnel Job Classification and Activity Assignment Accounting</i>	201
04. 02 04 04	<i>Personnel Function and Program Assignment Accounting</i>	201
04. 02 04 05	<i>Personnel Subject-Matter Area Accounting</i>	201
04. 02 04 06	<i>Personnel Conditions of Current Assignment Accounting</i>	201
04. 02 04 07	<i>Personnel Current Employment Accounting</i>	201
04. 02 04 08	<i>Personnel Career Development Accounting</i>	202
04. 02 04 09	<i>Personnel Separation Accounting</i>	202
04. 02 04 99	<i>Other Personnel Accounting</i>	202
04. 02 99	Other Personnel Management	202

Chapter 4

DEFINITIONS OF TERMS IN THE CLASSIFICATION STRUCTURE

This chapter defines those terms which were identified and classified in the previous chapter. This chapter (4) is critical to the handbook because it fixes the meaning of a term for any data gathering which uses the classification structure of the handbook. The definitions are what make the categories mutually exclusive—an underlying principle in this handbook and other handbooks in the series. Therefore, the user of this handbook should not make assumptions about what he believes a term may mean. The definition of the term should be carefully checked to ascertain the meaning ascribed to the term and the limits set by the definition.

This handbook acknowledges that the terms are not exhaustive, although they do represent a majority of the terms for data collection in the general field of educational technology.¹ Users of the handbook who are gathering data in a specialty area within the categories may find that they need further terms and categories. They are invited to add them, understanding the requirement to:

- 1) stay within the general classification structure and the categories given;

¹As explained on p. 9, other handbooks in the NCES State Educational Records and Reports Series may go into more depth in any particular area within educational technology.

- 2) carefully check the definitions of any related terms and categories to insure that the category does not already exist under a term unfamiliar to the user;
- 3) consult the introductory material at the beginning of the lists of any related classified terms in chapter 3² for reference material or sources which might already have terms, categories, and definitions congruent to the terms and classification scheme in this handbook;
- 4) consult other handbooks in the NCES State Educational Records and Reports Series for possible terms and definitions which could be used.

By following these steps, the data gathered in the specialty area can be more easily integrated with other data collected under the rubric of this handbook.

To assist the user of this handbook, the definitions in this chapter are given in the same order as the terms in chapter 3 with the same code numbers. For further convenience, the list of definitions for each major classification is preceded by a graphic overview of the significant terms and categories within that classification.

²The definition of each major classification in this chapter gives the page number in chapter 3 where the appropriate introductory material is to be found.

DEFINITIONS OF CLASSIFIED TERMS ABOUT THE LEARNER

Code Series 01.00

LEARNER

The person for whom instruction is planned and provided by an instructional organization or agency. The definition of the learner applies equally to anyone receiving instruction. There is no distinction in this handbook between the terms learner, student, and pupil. The terms are used interchangeably for data-gathering purposes and include all individuals receiving instruction at all levels, in all fields, from a variety of institutions.

Overview of Terms^a LEARNER Code Series 01.00

01. 01	01. 02	01. 03	01. 04	01. 05	01. 06	01. 07	01. 08	01. 09
<u>Personal Identification</u>	<u>Family & Residence</u>	<u>Physical, Health, Sensory, and Related Conditions</u>	<u>Mental, Psychological, and Proficiency Test Results</u>	<u>Enrollment (Admission)</u>	<u>Performance</u>	<u>Transportation Information</u>	<u>Special Assistance & Tuition Information</u>	<u>Other Learner Information</u>
01. 01 01 Name	01. 02 01 Parents	01. 03 01 History of Physical Development	01. 04 01 Mental, Psychological, and Proficiency Tests	01. 05 01 Entrance (Admission)	01. 06 01 Learning Performance			
01. 01 02 Learner Number	01. 02 02 Responsible Adult of the Household (if not the student or parent)	01. 03 02 Sensory, Physical, and Related Conditions	01. 04 02 Referrals for Learning Activities or for Intellectual, Social, or Emotional Reasons	01. 05 02 Membership and Attendance	01. 06 02 Noninstitutional Performance Information			
01. 01 03 Sex	01. 02 03 Brothers and Sisters Living in the Household	01. 03 03 Medical History	01. 04 03 Special Mental and Psychological Characteristics	01. 05 03 Withdrawal	01. 06 03 Postinstitution Performance Information			
01. 01 04 Racial/Ethnic Group	01. 02 04 Family Economic Information	01. 03 04 Referrals for Physical Health, Sensory, and Related Conditions	01. 04 04 Most Effective Styles of Learning	01. 05 04 Nonentrance				
01. 01 05 Birth and Age Data	01. 02 05 Family Social/Cultural Information	01. 03 05 Physical Examination						
01. 01 06 Minor/Adult Status	01. 02 06 Residence Data	01. 03 06 Physical, Health, and Sensory Impairments						
01. 01 07 Family Responsibility		01. 03 07 Limitation on Institutional Activities						
01. 01 08 Citizenship Status		01. 03 08 Emergency Information						
01. 01 09 Language Consideration								
01. 01 10 Veteran Benefit Status								

^aDue to limitations of space, only the first two levels of detail are included here.

For more information about the learner, see "Classification of Terms about the Learner" on p. 13.

For user convenience, an overview of the terms and categories of the learner is found in the chart on p. 52.

01. 01

PERSONAL IDENTIFICATION

The information which may be used in identifying the individual learner. (VR)

01. 01 01

Name

The legal name and any other name by which the learner is known or may have been known. (VR)

01. 01 02

Learner Number

The number assigned to the learner for identification and recordkeeping purposes. Normally only one number need be used for identification. (VR)

01. 01 03

Sex

The learner's sex: male or female. (VR)

01. 01 04

Racial/Ethnic Group

The learner's general racial or ethnic heritage. (VR) (A detailed breakdown of ethnic/racial subgroups used nationally is found under this heading in Handbook VR.)

01. 01 05

Birth and Age Data

The data about the age of the learner, date of birth, and place of birth. (VR)

01. 01 06

Minor/Adult Status

The learner's status in relation to legal adulthood. (VR)

01. 01 07

Family Responsibility

The status of the learner with regard to marriage and the relationship of any dependents. (VR-M)*

01. 01 08

Citizenship Status

The nature of the learner's citizenship status within the United States. (VR)

01. 01 09

Language Considerations

The ability of the learner to speak and understand languages—including Standard American English and Cultural-ethnic dialects of English—and identification of the language spoken in the home. Information about the learner's fluency with English

*See page 213.

01. 01 **PERSONAL IDENTIFICATION—Continued**01. 01 09 **Language Considerations—Continued**

(Standard American) and with other languages should suggest whether or not his facility with the language of instruction is a hindrance to his ability to profit from the usual classroom instruction. (VR) (Information about such impairments is included in item 01.030203, *Speech and Language*. Definitions for Standard American English and cultural-ethnic dialects of English are in the glossary under English, Standard American and English, Socio-cultural Dialect.)

01. 01 10 **Veteran Benefit Status**

The current eligibility of persons who served in the U.S. Armed Forces, and of their dependents and/or survivors, to receive educational benefits under the G.I. Bill. (VR)

01. 01 99 **Other Personal Identification**

Any other personal identification not listed and defined above.

01. 02 **FAMILY AND RESIDENCE**

Information concerning members of the learner's family and their residence. (VR)

01. 02 01 **Parents**

The persons having parental or legal guardianship responsibility for the learner. If the student is not residing with a parent or legal guardian, item 01.0202, **Responsible Adult or Domicile**, also should be completed. (VR)

01. 02 02 **Responsible Adult of Domicile (if not the learner or a parent)**

The adult responsible for the learner at the household or other domicile in which the learner resides, if not a person identified above (in item 01.0201) as the learner's male or female parent, and if the learner (or spouse) is not considered to be the head of the household. (VR-M)

01. 02 03 **Brothers and Sisters Living in the Household**

The learner's brothers and sisters residing in the household in which the learner resides. (VR)

01. 02 04 **Family Economic Information**

The information concerned with objective descriptive data related to the economic support of the learner's family. (VR)

01. 02 05 **Family Social/Cultural Information**

The information under this heading pertains to learners with differences in family cultural or environmental background that may adversely affect their school performance or learning, such as the culturally different and migratory children of migratory agricultural workers. (VR) (See also *Language Considerations*, 01.0109)

01. 02 06

Residence Data

The data concerned with information about residence addresses, telephone numbers, and location where the learner and his family reside. (VR)

01. 02 99

Other Family and Residence

Any family and residence information not listed and defined above.

01. 03

PHYSICAL, HEALTH, SENSORY, AND RELATED CONDITIONS

The various aspects of the learner's physical development; sensory, physical, and related conditions; medical history; physical examinations; referrals; physical impairments; and emergency information. (VR)

01. 03 01

History of Physical Development

The significant aspects of the learner's physical development as recorded over a period of time, including measurements of height, weight, and teeth. (VR-M)

01. 03 02

Sensory, Physical, and Related Conditions

The inventory of the state and condition of the learner's bodily systems and parts, e.g., vision, hearing, speech, orthopedic condition, neurological condition, and cardiac condition. (VR-M)

01. 03 02 01

Vision

The act or power of seeing with the eye. The category includes information about tests used to measure both uncorrected and corrected vision, and the identification of any visual handicap. (VR)

01. 03 02 02

Hearing

The act or process of perceiving sounds. This category includes information about tests used to measure hearing, an overall evaluation of hearing, and the identification of any auditory handicap. (VR-M)

01. 03 02 03

Speech and Language

The learner's ability to communicate orally with others. This category includes information about tests used to measure speech and language, an overall evaluation of speech facility, and the identification of a speech handicap. (VR-M)

01. 03 02 04

Orthopedic Condition

The state and/or condition of the learner's musculoskeletal system, including deformities, diseases, and injuries of the bones and joints, and the learner's ease of movement and mobility. (VR)

01. 03 02 05

Neurological Condition

The state and/or condition of the learner's nervous system, including its functioning, disorders, and diseases. (VR)

01. 03 **PHYSICAL, HEALTH, SENSORY, AND RELATED CONDITIONS—Continued**

01. 03 02 **Sensory, Physical, and Related Conditions—Continued**

01. 03 02 06 *Cardiac Condition*

The state and/or condition of the learner's heart and circulatory system, including their functioning, disorders, and diseases. (VR)

01. 03 02 07 *Related Physical Conditions*

The state and/or condition of bodily systems and functions other than and related to those included in 01.030201 through 01.030206.

01. 03 02 08 *Physical and/or Health Handicap*

Any physical or health impairment that adversely affects the performance of an individual in the usual instructional program. (VR-M)

01. 03 02 09 *Physical Anomalies and Cosmetic Conditions of Potential Emotional Significance*

The physical conditions, defects, and anomalies of such a nature as to have the potential to affect the learner's emotional behavior and/or social acceptance. (VR)

01. 03 02 99 *Other Sensory, Physical, and Related Conditions*

Any sensory, physical, and related conditions not listed and defined above.

01. 03 03 **Medical History**

The record maintained over time of the learner's diseases, illnesses, immunizations, injuries, medical treatment at school, surgery, medical laboratory test results, and related information. (VR)

01. 03 04 **Referrals for Physical, Health, Sensory, and Related Conditions**

The instances in which the learner is referred to a person or agency for examination and assistance because of physical, health, sensory, and related problems. Because of the interrelatedness of factors contributing to educational problems of learners, information under this heading may be combined completely or in part with information included under item 01.0402, **Referrals for Learning Activities or for Intellectual, Social, or Emotional Reasons.** (VR-M)

01. 03 05 **Physical Examination**

Any examination for the purpose of determining the individual's general physical condition or of discovering physical, health, sensory, or related conditions of any kind which might affect the normal progress in his learning activities. (VR-M)

01. 03 06 **Physical, Health, and Sensory Impairments**

The listing of physical, health, and sensory impairments, or handicaps and an

indication of the extent to which they might or do affect the learner's normal progress in the usual instructional program. (VR-M)

01. 03 07 **Limitation of Institutional Activities**

The restrictions of limitations placed on the student's activities at the institution because of physical, health, sensory, and related conditions. (VR-M)

01. 03 08 **Emergency Information**

The specific instructions for the medical treatment or handling of the learner in an emergency situation. (VR)

01. 03 99 **Other Physical, Health, Sensory, and Related Conditions**

Any physical, health, sensory, and related conditions not listed and defined above.

01. 04 **MENTAL, PSYCHOLOGICAL, AND PROFICIENCY TEST RESULTS, AND RELATED LEARNER CHARACTERISTICS**

The learner's mental, emotional, and behavioral characteristics (including affective, psychomotor, and cognitive), as indicated by the results of standardized tests and inventories and by the findings of psychological appraisals. (VR-M)

01. 04 01 **Mental, Psychological, and Proficiency Tests and Inventories**

The complete information for each standardized test and inventory taken by the learner. (VR-M)

01. 04 01 01 *Test Identification*

The identification of the specific test or tests used. (VR)

01. 04 01 02 *Form of Test Administration*

The manner in which a test is administered to the learner. (VR)

01. 04 01 03 *Test Scoring Information*

The indication of the test results, range of scores, norm group, and type of score reporting. (V)

01. 04 01 99 *Other Mental, Psychological, and Proficiency Tests and Inventories*

Any mental, psychological, and proficiency tests not listed and defined above.

01. 04 02 **Referrals for Learning Activities or for Intellectual, Social, or Emotional Reasons**

The instances in which the learner is referred to a person or agency for diagnosis, assistance, or guidance with respect to his learning activities or for intellectual, social, or emotional reasons. Because of the interrelatedness of factors contributing to educational problems of learners, this information may be combined completely or in part with

01. 04 **MENTAL, PSYCHOLOGICAL, AND PROFICIENCY TEST RESULTS, AND RELATED
LEARNER CHARACTERISTICS—Continued**

01. 04 02 **Referrals for Learning Activities or for Intellectual, Social, or Emotional Reasons—
Continued**

information under item 01.0304, Referrals for Physical, Health, Sensory, and Related Conditions. (VR-M)

01. 04 03 **Special Mental and Psychological Characteristics**

The special behavioral and psychological characteristics of the learner, as determined by qualified professional personnel. (VR-M)

01. 04 03 01 *Gifted and Talented*

The learners identified by professionally qualified personnel as being mentally gifted or talented in specific areas such as those listed below. As the term is used in this handbook, the "mentally gifted" includes individuals whose potential is so high or whose level of mental development is so far advanced that they have been identified by professionally qualified personnel as needing additional educational opportunities beyond what is provided by the usual instructional program if they are to be educated to the level of their ability. As the term is used in this handbook, the "talented" include individuals identified by professionally qualified personnel as being capable of high performance in one or more areas of special competence. Among these areas of special competence are creativity; leadership ability and social adeptness; and facility in the productive and performing arts. (VR)

01. 04 03 02 *Underachievers*

The learners who score consistently and significantly below their expected performance levels on standardized achievement tests. Their expected performance levels are determined by using scores on standardized tests of ability to predict performance on standardized tests of achievement. (VR)

01. 04 03 03 *Slow Learners*

The learners who display evidence of having difficulty in adjusting to the usual curriculum in one or more academic areas, requiring modification of school offerings within the regular classroom in order to attain maximum growth and development. The term should be used in referring to the learner's capability in specific academic areas rather than to the learner's general level of mental ability. (V)

01. 04 03 04 *Mentally Retarded*

The learners identified by professionally qualified personnel as being mentally retarded, according to degree of retardation. This includes those individuals whose level of mental development is such that they have been identified as unable, without special help, to profit from the usual instructional program. Learners in this category are classified educationally as educable mentally retarded, trainable mentally retarded, and severely mentally retarded. (VR)

01. 04 03 05

Seriously Emotionally Disturbed

The individuals identified by professionally qualified personnel as having an emotional handicap of such a nature and severity as to require one or more special services, whether or not such services are available. Such services—for conditions such as autism, schizophrenia, and other psychotic conditions—include, but are not limited to, institutional care, other professional treatment or care, and instruction in special classes on a full-time or part-time basis. (VR)

01. 04 03 06

Socially Maladjusted

The individuals identified by professionally qualified personnel as having unusual difficulty or unacceptable behavior in interpersonal relationships to an extent as to require special services. (VR)

01. 04 03 07

Learners with Specific Learning Disabilities

The learners who have a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which disorder may manifest itself in imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations. Such disorders include such conditions as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. Such term does not include individuals who have learning problems which are primarily the result of visual, hearing, or motor handicaps, of mental retardation, of emotional disturbance, or of environmental disadvantage. (VR)

01. 04 03 99

Other Special Mental and Psychological Characteristics

Any other special mental and psychological characteristics not listed and defined above.

01. 04 04

Most Effective Styles of Learning

The manner in which the learner appears to learn best. May refer to specific techniques, settings, or media. (VR-M)

01. 04 99

Other Mental, Psychological, and Proficiency Test Results, and Related Student Characteristics

Any other mental, psychological, and proficiency test results and related student characteristics not listed and defined above.

01. 05

ENROLLMENT

The data about the learner's entrance into an instructional situation, his membership, and his withdrawal. (VR)

01. 05 01

Entrance (Admission)

The entrance or reentrance of the learner into an instructional institution or program. This information classifies the entering learner by type of entry, and includes a

01. 05

ENROLLMENT—Continued

01. 05 01

Entrance (Admission)—Continued

description of the situation in which he is to receive instruction, (e.g., the instructional organization entered, grade entered, location of instruction, and type of class entered). (VR-M)

01. 05 01 01

Type of School or Institution Entered

The classification of the entering learner according to the type of school or institution in which he is to receive instruction. This category includes enrollment in both traditional institutions as well as nontraditional institutions, such as "open schools" and "nonschools" where most of the learning activities are off-campus. (VR-M)

01. 05 01 02

Grade Entered or Year in School

The indication of the particular grade or year that the learner entered into a school or an institution. (VR)

01. 05 01 03

Location of Learning Activities

The location and nature of the facility or setting in which the learner receives instruction. (VR-M) (See also **SETTINGS** (02.04).)

01. 05 01 04

Location of Instructional Support

The location and nature of the facility or facilities used for services directly supporting instruction. (VR-M) (See also **SETTINGS** (02.04).)

01. 05 01 05

Type of Program Entered

The information recorded under this heading pertains mostly to learners registered in a postsecondary institution or an adult/continuing education instructional organization and indicates the category of program in which he is to receive instruction. (VR-M)

01. 05 01 06

Type of Class (or Instructional Grouping)

The type of class(es) or grouping(s) in which the learner is to receive approved instruction. (VR)

01. 05 01 07

Principal Medium of Teacher-Learner Communication

The principal medium by which the learner receives communication from his teacher. (VR-M)

01. 05 01 08

Full-Time/Part-Time Status

The indication of whether the learner has full-time or part-time status. (V)

01. 05 01 09

Day/Evening Status

The indication of whether the learner is a day or evening student. (VR-M)

01. 05 01 10

Special Program Modification

The change or deviation in the normal instructional program to accommodate special needs or conditions of the learner, such as a physical handicap or a religious belief, including the need for special resources. (VR)

01. 05 01 99

Other Entrance (Admission)

Any other entrance (admission) information not listed and defined above.

01. 05 02

Membership and Attendance

The various aspects of the learner's membership, attendance, absence, tardiness, and early departure. (VR)

01. 05 03

Withdrawal

The information about learners who withdraw from membership in a class, grade, school, or instructional program, by transferring, completing the required work, discontinuing the work, or because of death. (VR-M)

01. 05 04

Nonentrance

The information concerning individuals for whom instruction is legally compulsory and who have not enrolled in a legally accepted instructional program. (VR-M)

01. 05 99

Other Enrollment

Any enrollments not listed and defined above.

01. 06

PERFORMANCE

The aspects of the learner's activities and accomplishments, including those which are part of the instructional program, those which are conducted outside the institution, and those which are taken after he leaves the institution. (VR)

01. 06 01

Learning Performance

The activities and accomplishments within the instructional program, such as information about the learner's program of studies, courses, institutional activities, grade progression, and the diploma, certificate, or degree awarded for completion of required learning. (VR-M)

01. 06 01 01

Program of Studies

The combination of related courses and/or self-contained classes organized for the attainment of specific educational goals such as a program of special education for handicapped students, a college preparatory course, an occupational or professional program, or a graduate program. (VR-M)

01. 06

PERFORMANCE—Continued

01. 06 01

Learning Performance—Continued

01. 06 01 02

Course Information

The information about an organization of subject matter and related learning experiences provided for the instruction of learners on a regular or systematic basis.

01. 06 01 03

Mark or Report for Learner Performance

Any final mark or report received by the learner for a course or for any portion of subject matter. The mark or report represents an evaluation of the work done. (VR-M)

01. 06 01 04

Credit (Unit of Value)

The unit of value awarded for the successful completion of certain courses. (See *Course Information* (01.060102).) The credit is intended to indicate the quantity (but not necessarily the quality) of course instruction in relation to the total requirements for a diploma, certificate, or degree. (VR)

01. 06 01 05

Cocurricular

The data concerning the learner's participation in activities under the sponsorship and/or direction of instructional institutions. The activities are of the type for which participation generally is not required and credit is not awarded. (VR)

01. 06 01 06

Progress

The information about the progress of the learner in an instructional program. (VR)

01. 06 01 07

Recognition for Completion

The nature of the certificate or other recognition given the learner for successful completion of a program of studies, course, class or cocurricular activity, or for graduation from an instructional institution. (VR-M)

01. 06 01 99

Other Institutional Performance

Any institutional performance information not listed and defined above.

01. 06 02

Noninstitutional Performance

The information concerning the employment of a learner and other activities outside of the learning program or instructional institution but which might relate to his learning. (VR-M)

01. 06 03

Postinstitutional Performance

The information about employment and other activities of the former learner after

he leaves the training institution. Also included under this heading are current aspirations and plans of the student for postinstitutional vocation, training, and education. (VR-M)

01. 06 03 01

Postinstitutional Interests and Plans

The learner's current plans and interests with regard to postinstitutional vocation, training, and education. (VR-M)

01. 06 03 02

Postinstitutional Education and Training

The information about the nature of further instruction and other training programs in which the learner enrolls after leaving the training institution. (VR-M)

01. 06 03 99

Other Postinstitutional Performance

Any other postinstitutional performance information not listed and defined above.

01. 06 99

Other Performance

Any performance information not listed and defined above.

01. 07

TRANSPORTATION

The information concerning the transportation of learners who are involved in learning activities or other activities of the instructional institution. (VR-M)

01. 08

SPECIAL ASSISTANCE AND TUITION

The situations in which receipt of money or other assistance by the school, the school district, the learner, or the family is based upon the characteristics or status of the individual learner or his family. (VR-M)

01. 99

OTHER LEARNER INFORMATION

Any learner information not listed and defined above.

DEFINITIONS OF CLASSIFIED TERMS ABOUT LEARNING RESOURCES

Those resources—people, processes, and things—which are used to facilitate learning. As chapter 2 pointed out, the application of technology to any field of endeavor increases the number, variety, and sophistication of the resources used. By definition, technology is applied science—the translation of theory into practice—and the key to applied science is process or technique. In educational technology, process is considered as an essential resource, along with the people and things which implement process.

This handbook identifies and defines six learning resources: materials, devices, techniques, settings, content, and staff. For more information about the learning resources and their role in educational technology, see "Classification of Terms about Educational Technology" on p. 9 and the discussion of educational technology and learning resources in chapter 2.

02. 01 01 Recorded Materials		02. 01 02 Supplies (see page 65)		02. 01 99 Other Materials	
02. 01 01 01 Audio recordings	02. 01 01 02 Computer Materials	02. 01 01 03 Electronic Display Materials	02. 01 01 04 Projected & Magnified Materials	02. 01 01 05 Printed/Pictorial Materials	02. 01 01 06 Three-Dimensional Materials
02. 01 01 01 01 Audio record, Recorded	02. 01 01 02 01 Computer Card, Punched	02. 01 01 03 01 Videotape, Recorded	02. 01 01 04 01 Aperture Card	02. 01 01 05 01 Book	02. 01 01 06 01 Diorama
02. 01 01 01 02 Audio disc	02. 01 01 02 02 Computer Printout	02. 01 01 03 01 01 Videotape Reel, Recorded	02. 01 01 04 02 Microform	02. 01 01 05 02 Chart	02. 01 01 06 02 Exhibit
02. 01 01 01 03 Audio tape, Recorded	02. 01 01 02 03 Computer Program	02. 01 01 03 01 02 Videotape Cassette, Recorded	02. 01 01 04 02 01 Microfiche	02. 01 01 05 03 Map	02. 01 01 06 03 Game
02. 01 01 01 03 01 Audio tape Reel, Recorded	02. 01 01 02 04 Computer Magnetic Tape, Recorded	02. 01 01 03 01 03 Videotape Cartridge, Recorded	02. 01 01 04 02 02 Microfilm Reel	02. 01 01 05 04 Picture	02. 01 01 06 04 Globe
02. 01 01 01 03 02 Audio tape Cassette, Recorded		02. 01 01 03 01 04 Videotape Cartridge, Recorded	02. 01 01 04 02 03 Micro-Optique	02. 01 01 05 04 01 Art Print	02. 01 01 06 05 Mock-Up
02. 01 01 01 03 03 Audio tape Cartridge, Recorded		02. 01 01 03 01 05 Other Recorded Videotapes	02. 01 01 04 02 04 Ultrafiche	02. 01 01 05 04 02 Study Print	02. 01 01 06 06 Model
02. 01 01 01 03 99 Other Recorded Audio tapes		02. 01 01 03 02 Videodisc, Recorded	02. 01 01 04 02 99 Other Microform Materials	02. 01 01 05 04 03 Photograph	02. 01 01 06 07 Realia
02. 01 01 01 04 Audio tape, Recorded			02. 01 01 04 03 Microscope Slide	02. 01 01 05 04 99 Other Pictures	02. 01 01 06 08 Simulation
02. 01 01 01 05 Dictation/Transcription Belt, Recorded			02. 01 01 04 04 Filmstrip	02. 01 01 05 05 Serial	02. 01 01 06 09 Educational Toy
02. 01 01 01 06 Talking Book			02. 01 01 04 04 01 Filmstrip, Silent	02. 01 01 05 05 01 Periodical	
			02. 01 01 04 04 02 Filmstrip, Sound	02. 01 01 05 05 99 Other Serials	
			02. 01 01 04 04 99 Other Filmstrips		
			02. 01 01 04 05 Slide		
					02. 01 01 07 Kit
					02. 01 01 07 01 Multimedia Kit
					02. 01 01 07 02 Learning Package
					02. 01 01 99 Other Recorded Materials

02.01 MATERIALS

02. 01 01 Recorded Materials (see p. 64)				02. 01 02 Supplies		02. 01 99 Other Materials					
02. 01 02 01		02. 01 02 02		02. 01 02 03		02. 01 02 04		02. 01 02 05		02. 01 02 99	
Audio recording Supplies		Computer Supplies		Electronic Display Supplies		Graphics & Reproduction Supplies		Photographic Supplies		Other Supplies	
02. 01 02 01 01		02. 01 02 02 01		02. 01 02 03 01		02. 01 02 04 01		02. 01 02 05 01		02. 01 02 99 01	
Audio card, Unrecorded		Computer Card, Unpunched		Videotape, Unrecorded		Art and Graphic Art Supplies		Photographic Film		02. 01 02 99 02	
02. 01 02 01 02		02. 01 02 02 02		02. 01 02 03 01 01		02. 01 02 04 02		Motion Picture Film, 16mm		02. 01 02 99 03	
Audiotape, Unrecorded		Mark Sensing Form		Videotape Reel, Unrecorded		02. 01 02 04 03		Motion Picture Film, 8mm		02. 01 02 99 04	
02. 01 02 01 02 01		02. 01 02 02 03		02. 01 02 03 01 02		Thermal Copy Supplies		Motion Picture Film, Super/Single 8mm		02. 01 02 99 05	
Audiotape Reel, Unrecorded		Computer Magnetic Tape, Unrecorded		Videotape Cassette, Unrecorded		Electrostatic Copy Supplies		Still Photographic Film		02. 01 02 99 06	
02. 01 02 01 02 02		02. 01 02 02 04		02. 01 02 03 01 03		02. 01 02 04 05		Other Photographic Film, Raw Stock		02. 01 02 99 07	
Audiotape Cassette, Unrecorded		Computer Output Forms		Videotape Cartridge, Unrecorded		Supplies		Photographic Paper		02. 01 02 99 08	
02. 01 02 01 02 03				02. 01 02 03 01 99		02. 01 02 04 06		Photographic Chemicals		02. 01 02 99 09	
Audiotape Cartridge, Unrecorded				Other Unrecorded Videotapes		Spirit Duplication Supplies		Flashlamp		02. 01 02 99 10	
02. 01 02 01 02 99						02. 01 02 04 07				02. 01 02 99 11	
Other Unrecorded Audiotapes						Rotary Stencil Duplication Supplies				02. 01 02 99 12	
02. 01 02 01 03						02. 01 02 04 08				02. 01 02 99 13	
Audiotape, Unrecorded						Offset Printing Supplies				02. 01 02 99 14	
02. 01 02 01 04						Mounting/Laminating Supplies				02. 01 02 99 15	
Magnetic Film, Unrecorded										02. 01 02 99 16	
										02. 01 02 99 17	
										02. 01 02 99 18	
										02. 01 02 99 19	
										02. 01 02 99 20	
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DEFINITIONS OF CLASSIFIED TERMS ABOUT MATERIALS

Code Series 02.01

02. 01 **MATERIALS**

The learning resources used either in the process of instruction or in its production, reproduction, transmission, or display. Materials are usually consumable or nonmechanical items. For the specific characteristics and criteria used to identify and classify materials (including supplies), see "Classification of Terms about Materials" on p. 17. Page 18 contains additional information on the materials listed and defined in this handbook.

For user convenience, an overview of the major terms and categories of the materials defined in this section is found in the chart on pp. 64-65.

02. 01 01 **Recorded Materials**

The materials which are ready for use in the instructional process, usually with some sort of content or instructional message incorporated into them.

02. 01 01 01 ***Audiorecording***

Materials on which sounds (only) are stored and can be reproduced (played back) mechanically and/or electronically.

02. 01 01 01 01 **Audiocard, Recorded**

A thin card with a strip of $\frac{1}{4}$ inch audiotape across the bottom of its width (usually 12 inches or less). The sounds recorded on tape are usually 10 seconds or less in length. Space is provided above the audiotape for pictures or words.

02. 01 01 01 02 **Audiodisc**

A disc, usually of vinyl, in which is impressed a continuous fine spiral groove. As the audiodisc revolves, it causes a stylus to vibrate and produce electrical signals which are converted to sound. (Also called Phonograph Record, Phonodisc, Sound Recording, Phonorecord and variants of these terms.)

02. 01 01 01 03 **Audiotape, Recorded**

A strip of magnetic tape on one side of which electrical signals are recorded which can be converted to reproduce sound. While audiotape ranges in size from 150 mils to 1 inch, the most common size in instructional applications is 150 mils (in cassettes) and $\frac{1}{4}$ inch (reels).

02. 01 01 01 03 01 **Audiotape Reel, Recorded**

A narrow, flanged spool of recorded audiotape. The reel is usually 3, 5, or 7 inches in diameter. (Also called Reel-to-Reel Tape or Audioreel.)

02. 01 01 01 03 02 **Audiotape Cassette, Recorded**

A permanently encased two-reel system of recorded audiotape. The tape is

usually 150 mils wide and usually recorded at 1-7/8 inches per second. (Also called Audiocassette.)

02. 01 01 01 03 03

Audiotape Cartridge, Recorded

A permanently encased single reel of recorded audiotape which has the ends joined together to form a continuous loop that provides playback without rewinding. (Also called Audiocartridge.)

02. 01 01 01 03 99

Other Audiotapes, Recorded

Any recorded audiotapes not listed and defined above.

02. 01 01 01 04

Audiopage, Recorded

A specially prepared page or sheet backed with a magnetic oxide (similar to that on audiotape) containing an audiorecording. An audiopage requires special playback equipment and is *not* the same as an Audiocard.

02. 01 01 01 05

Dictation/Transcription Belt, Recorded

A wide continuous loop of material containing an audiorecording of dictation intended for transcription. The belt requires a special machine for playback.

02. 01 01 01 06

Talking Book

A spoken text recorded either on audiotape or on an audiodisc (generally at 16-2/3 r.p.m., but also at 33-1/3 r.p.m.) intended particularly for use by the visually handicapped.

02. 01 01 01 99

Other Audiorecordings

Any audiorecordings not listed and defined above.

02. 01 01 02

Computer Materials

The materials intended for use with the computer, either as input or output, which have data recorded on them in some form. Does *not* include Computer Output Microfilm.

02. 01 01 02 01

Computer Card, Punched

A card punched with a pattern of holes representing data and designed to be read and/or translated by machine. A collection of related cards is called a deck. Does *not* include Aperture Card (02.01010401). (Also called Punched Card and Data Card.)

02. 01 01 02 02

Computer Printout

The printed output of a computer usually on a continuous sheet of paper. Specifically designed forms for printing information with a computer printer are also recorded here.

02. 01 **MATERIALS—Continued**02. 01 01 **Recorded Materials—Continued**02. 01 01 02 *Computer Materials—Continued*02. 02 01 02 03 **Computer Program**

A series of instructions or statements, in a form acceptable to a computer, prepared in order to achieve a certain result. The program may be stored physically on cards, tape, or other computer input material. (X3.12)

02. 01 01 02 04 **Computer-Magnetic Tape, Recorded**

The magnetic tape on which data for computer use has been recorded by selective polarization of portions of the oxide surface.

02. 01 01 02 99 **Other Recorded Computer Materials**

Any recorded computer materials not listed and defined above.

02. 01 01 03 *Electronic Display Materials*

The materials on which signals are recorded for use through electronic display on a cathode ray tube, usually television. The recorded signal is for reproduction of pictures, usually accompanied by sound. Does *not* include recorded materials for computer output on a cathode ray tube.

02. 01 01 03 01 **Videotape, Recorded**

A magnetic tape on which video and audio signals are recorded for television use. The tape varies from $\frac{1}{4}$ to 2 inches in width and from 0.5 to 1.5 mils in thickness. The most common sizes for instructional use are $\frac{1}{4}$, $\frac{1}{2}$, and 1 inch wide. Videotape may be on an open reel or in a cartridge or cassette.

02. 01 01 03 01 01 **Videotape Reel, Recorded**

A flanged spool of recorded videotape.

02. 01 01 03 01 02 **Videotape Cassette, Recorded**

A permanently encased, recorded videotape which winds from reel to reel, often automatically. Videotape cassettes must be played on a videoplayer compatible with the particular type of cassette. (Also called Videocassette.)

02. 01 01 03 01 03 **Videotape Cartridge, Recorded**

A permanently encased, single reel of recorded videotape with the ends joined to form a continuous loop. Videotape cartridges must be played on a videoplayer compatible with the cartridge. (Also called Videocartridge.)

02. 01 01 03 01 99

Other Recorded Videotapes

Any recorded videotape not listed and defined above.

02. 01 01 03 02

Videodisc, Recorded

A disc on which are recorded video and/or audio signals for television use. A videodisc requires a videoplayer compatible with the videodisc.

02. 01 01 03 99

Other Recorded Electronic Display Materials

Any recorded materials for electronic display not listed and defined above.

02. 01 01 04

Projected and Magnified Materials

Recorded visual materials which are intended to be enlarged, magnified, or projected for use. Some of the materials are often accompanied by sound.

02. 01 01 04 01

Aperture Card

A data card with a rectangular hole or holes specifically prepared for the mounting and insertion therein of microfilm.

02. 01 01 04 02

Microform

Any materials, film or paper, printed or photographic, containing microimages which are units of information, such as a page of text or drawing, too small to be read without magnification. Includes Computer Output Microfilm.

02. 01 01 04 02 01

Microfiche

A sheet of microfilm (usually 4 by 6 inches - 10 by 15 cm.) containing multiple microimages in a grid pattern. It usually contains a title which can be read without magnification. Does *not* include Ultrafiche, 02.0101040204.

02. 01 01 04 02 02

Microfilm Reel

A flanged holder of microfilm containing microimages in sequence.

02. 01 01 04 02 03

Micro-opaque

A sheet of opaque material bearing one or more microimages. Micro-opaque requires a different reader (using reflected light) than microfilm. Includes microprint and micropaper.

02. 01 01 04 02 04

Ultrafiche

Any microfiche with images reduced more than 90 times of the original size. *Not* included in Microfiche (02.0101040201). (Also called Ultramicrofiche.)

02. 01 01 04 02 99

Other Microform Materials

Any microform materials not listed and defined above.

02. 01 **MATERIALS—Continued**02. 01 01 **Recorded Materials—Continued**02. 01 01 04 *Projected and Magnified Materials—Continued*02. 01 01 04 03 **Microscope Slide**

A thin glass plate holding a minute object for viewing through a microscope or by a microprojector.

02. 01 01 04 04 **Filmstrip**

A length of film that presents a sequence of related still pictures for projection one at a time. Most filmstrips are on 35mm film, but some are 16mm or smaller. A filmstrip is *single-frame* if the horizontal axis of the pictures is perpendicular to the sprocket holes; it is *double-frame* if the horizontal axis of the pictures is parallel to the sprocket holes. It may or may not have provision for sound accompaniment. Includes filmstrips. (Also called Stripfilm.)

02. 01 01 04 04 01 **Filmstrip, Silent**

A filmstrip without an accompanying audiorecording. A silent filmstrip is usually accompanied by a script or with captions printed on the frames.

02. 01 01 04 04 02 **Filmstrip, Sound**

A filmstrip accompanied by a separate audiorecording, which may also have a signal for the filmstrip to be advanced as well as a sound track related to the filmstrip.

02. 01 01 04 04 99 **Other Filmstrips**

Any other filmstrips not listed and described above.

02. 01 01 04 05 **Slide**

A transparent image on film or glass (usually photographic) intended for projection. Actual image area may vary from microimage to 3¼ by 4 inches (called a lantern slide). Most slides other than 3¼ by 4 inches and 2¼ by 2¼ inches are mounted in a cardboard or plastic frame whose outside dimensions are 2 by 2 inches.

02. 01 01 04 06 **Slide/Audiotape**

A set of slides accompanied by an audiotape containing a sound track and sometimes a signal to project the next slide in the sequence. (Also called Slide/Tape.)

02. 01 01 04 07 **Audioslide**

A 2 by 2 inch slide with a brief audiorecording on magnetic materials on the slide mount. The audioslide requires a special projector.

02. 01 01 04 08

Overhead Transparency

An image on a transparent sheet of material up to 10 by 10 inches intended for use with an overhead projector or light box.

02. 01 01 04 09

Stereograph

A pair of opaque or transparent images (usually photographic) intended to produce a three-dimensional effect when viewed with stereoscopic equipment.

02. 01 01 04 10

Hologram

A material which presents the illusion of three dimensions, complete with parallax. A hologram is created by a photographic technique utilizing a laser.

02. 01 01 04 11

Motion Picture

A length of film, with or without a magnetic or optical sound track, bearing a sequence of images which create the illusion of movement when projected in rapid succession (usually 18 or 24 frames per second). Common film sizes in instructional use are 16mm, 8mm, and super/single 8mm.

02. 01 01 04 11 01

Motion Picture, 16mm

A motion picture, silent or sound, 16 millimeters wide with sprocket holes on one or both edges. Sound film has sprocket holes on one edge only and a sound track along the other edge.

02. 01 01 04 11 02

Motion Picture, 8mm

A motion picture, silent or sound, 8 millimeters wide with sprocket holes on one edge only. A sound film has a sound track along the edge opposite the sprocket holes. The film may be on an open reel or in a special cartridge or cassette. (Also called Regular 8 or Standard 8.)

02. 01 01 04 11 03

Motion picture, Super/Single 8mm

A motion picture, silent or sound, 8 millimeters wide with sprocket holes along one edge only. The reduced size and different placement of the sprocket holes allow more image area than 8mm. A sound motion picture has a sound track along the edge opposite the sprocket holes. The motion picture may be on an open reel or in a cartridge or cassette.

02. 01 01 04 11 99

Other Motion Pictures

Any other motion pictures not listed and defined above.

02. 01 01 04 99

Other Projected and Magnified Materials

Any other projected and magnified materials not listed and defined above.

02. 01 01 05

Printed/Pictorial Materials

The two-dimensional materials with verbal or pictorial information which do not usually require the special equipment or magnification for use.

02. 01 MATERIALS—Continued

02. 01 01 Recorded Materials—Continued

02. 01 01 05 Printed/Pictorial Materials—Continued

02. 01 01 05 01 Book

A unit of publication, either bibliographically independent, or a volume in a series published under the same title, consisting of leaves, sheets, or signatures sewn or otherwise bound together, covered or uncovered. Bound volumes of periodicals and newspapers are not considered books. (Z39.7)

02. 01 01 05 02 Chart

An opaque sheet exhibiting information in graphic or tabular form, or by use of contours, shapes, or figures. Does *not* include navigational charts which are classified with Maps (02.01010503).

02. 01 01 05 03 Map

A representation, usually on a flat surface, of the earth or the heavens. Navigational charts are included in this category.

02. 01 01 05 04 Picture

A representation made on opaque material by drawing, painting, photography, or other graphic arts techniques.

02. 01 01 05 04 01 Art Print

A reproduction of a two-dimensional work of art, generally issued without instructional text.

02. 01 01 05 04 02 Study Print

A picture generally with accompanying textual information prepared specifically for instructional purposes.

02. 01 01 05 04 03 Photograph

A picture recorded on photographic or other opaque photosensitive material by photographic means. Does *not* include Study Print (02.0101050402) or Slide (02.01010405).

02. 01 01 05 04 99 Other Pictures

Any pictures or picture material not listed and described above.

02. 01 01 05 05 Serial

A publication issued in successive parts, usually at regular intervals, and as a

rule, intended to be continued indefinitely. Serials include periodicals, newspapers, annuals (reports, yearbooks, etc.), memoirs, proceedings, and transactions of societies; they may include monographic and publishers' series. (Z39.7)

02. 01 01 05 05 01

Periodical

A serial publication which constitutes one issue in a continuous series under the same title, usually published at regular intervals over an indefinite period, individual issues in the series being numbered consecutively or each issue being dated. (Z39.7 and LIBGIS.)

02. 01 01 05 05 99

Other Serials

Any serial not listed and described above.

02. 01 01 05 99

Other Printed/Pictorial Materials

Any printed/pictorial materials not described above.

02. 01 01 06

Three-Dimensional Materials

Those materials which are most easily classified in terms of their three-dimensional aspects.

02. 01 01 06 01

Diorama

A three-dimensional representation of a scene.

02. 01 01 06 02

Exhibit

A collection of objects and materials arranged in a setting to convey a unified idea.

02. 01 01 06 03

Game

A set of materials developed to be used according to prescribed rules for (physical or mental) competitive play.

02. 01 01 06 04

Globe

A sphere upon which is depicted a map of the earth or the heavens, showing elements in their proper relationships.

02. 01 01 06 05

Mock-Up

A representation of a real device or process whose essential elements may be modified and emphasized for specific training or analysis.

02. 01 01 06 06

Model

A three-dimensional representation of a real thing, produced in the exact size of the original, or on a smaller or larger scale. Includes sculptural reproductions.

02. 01 **MATERIALS—Continued**02. 01 01 **Recorded Materials—Continued**02. 01 01 06 *Three-Dimensional Materials—Continued*02. 01 01 06 07 **Realia**

Tangible objects, real items (as opposed to representations or models) as they are without alterations. Includes specimens.

02. 01 01 06 08 **Simulation Material**

A material developed specifically to imitate a real situation and which provides participants with role-playing experiences through a set of allowable actions and a specially created framework within which the actions take place.

02. 01 01 06 09 **Educational Toy**

A play item which has value in developing physical or mental capacities and manipulative and motor skills, in addition to its value for pleasure and recreation.

02. 01 01 06 99 **Other Three-Dimensional Materials**

Any three-dimensional materials not listed and defined above.

02. 01 01 07 **Kit**

A collection of materials in more than one medium that are subject related and intended for use as an instructional unit. Does *not* include Sound Filmstrips, Slide/Audiotapes, and similar items unless they are accompanied by other materials.

02. 01 01 07 01 **Multimedia Kit**

A collection of subject-related materials in more than one medium intended for use as a unit and in which no one medium is so clearly dominant that the others are dependent or accompanying.

02. 01 01 07 02 **Learning Package**

A collection of subject-related materials accompanied by specific directions for learner use, and for which there is a list of objectives and test items.

02. 01 01 07 99 **Other Kits**

Any kits not listed and defined above.

02. 01 01 99 **Other Recorded Materials**

Any recorded materials not listed and defined above.

02. 01 02 **Supplies**

The materials used in the preparation of **Recorded Materials** (02.0101).

02. 01 02 01

Audiorecording Supplies

The materials on which sound can be electronically recorded for later playback, using the proper devices.

02. 01 02 01 01

Audiocard, Unrecorded

A thin card with a strip of 1/4-inch unrecorded audiotape horizontally across the bottom. Space is provided on the card above the audiotape for pictures or words.

02. 01 02 01 02

Audiotape, Unrecorded

A strip of magnetic tape upon which sound can be recorded for later playback, using the proper devices. While audiotape ranges in size from 150 mils to one inch, the most common size is 150 mils (in cassettes) and 1/4 inch. (Also called Blank Tape or Blank Audiotape.)

02. 01 02 01 02 01

Audiotape Reel, Unrecorded

A narrow, flanged spool of unrecorded audiotape. The reel is usually 3, 5, or 7 inches in diameter.

02. 01 02 01 02 02

Audiotape Cassette, Unrecorded

A permanently encased two-reel system of unrecorded audiotape. The tape is usually 150 mils wide. (Also called Blank Cassette or Blank Audiocassette.)

02. 01 02 01 02 03

Audiotape Cartridge, Unrecorded

A permanently encased single reel of unrecorded audiotape which has the ends joined together to form a continuous loop. (Also called Blank Cartridge or Blank Audiotape.)

02. 01 02 01 02 99

Other Unrecorded Audiotapes

Any unrecorded audiotapes not listed and defined above.

02. 01 02 01 03

Audiopage, Unrecorded

A specially prepared page or sheet backed with a magnetic oxide (similar to that on audiotape) upon which sounds may be electronically recorded for playback, using the proper devices.

02. 01 02 01 04

Magnetic Film, Unrecorded

A motion picture film base with sprocket holes but backed with a magnetic oxide (similar to that on audiotape) upon which sounds may be recorded for playback using the proper devices. It is used primarily in the production of motion pictures with double system synchronous sound. Magnetic film is available in most of the same sizes as motion picture film. (Also called Fullcoat or Blank Magnetic Film.)

02. 01 **MATERIALS—Continued**02. 01 02 **Supplies—Continued**02. 01 02 01 ***Audiorecording Supplies—Continued***02. 01 02 01 99 **Other Audiorecording Supplies**

Any audiorecording supplies not listed and described above.

02. 01 02 02 ***Computer Supplies***

The material intended for use with the computer or peripheral equipment and which does not have data recorded on it.

02. 01 02 02 01 **Computer Card, Unpunched**

A standard card designed to be punched with a pattern of machine readable holes representing data. (Also called Data Card.)

02. 01 02 02 02 **Mark Sensing Form**

A standardized form with a nonconductive surface upon which manually recorded conductive marks (machine readable) can be made.

02. 01 02 02 03 **Computer Magnetic Tape, Unrecorded**

The magnetic tape designed for computer use and upon which machine readable data for computer use can be recorded. (Also called Blank Tape or Blank Computer Tape.)

02. 01 02 02 04 **Computer Output Forms**

Any standardized form, paper, or film upon which the computer may register output data. Includes film for Computer Output Microfilm and paper for printout but does *not* include Computer Card, Unpunched (02.01020201).

02. 01 02 02 99 **Other Computer Supplies**

Any computer supplies not listed here and described above.

02. 01 02 03 ***Electronic Display Supplies***

The materials on which video and audio signals can be recorded for playback on a cathode ray tube (usually television) using the proper devices. Does *not* include computer supplies used with cathode ray tube display.

02. 01 02 03 01 **Videotape, Unrecorded**

A magnetic tape on which video and audio signals can be recorded for television use. The tape varies from $\frac{1}{4}$ inch to 2 inches in width and from 0.5 to 1.5 mils in thickness. The most common sizes for instructional use are $\frac{1}{4}$, $\frac{3}{4}$, and 1 inch in width. Videotape may be on an open reel or in a cartridge or cassette.

02. 01 02 03 01 01

Videotape Reel, Unrecorded

A flanged spool of unrecorded videotape. (Also called Blank Videotape or Blank Tape.)

02. 01 02 03 01 02

Videotape Cassette, Unrecorded

A permanently encased unrecorded videotape which winds from reel to reel, often automatically. Videotape cassettes must be recorded and played back on a machine compatible with the particular type of cassette. (Also called Blank Videocassette, Blank Cassette, or Blank Videotape Cassette.)

02. 01 02 03 01 03

Videotape Cartridge, Unrecorded

A permanently encased single reel or unrecorded videotape with the ends joined to form a continuous loop. Videotape cartridges must be recorded and played on a machine compatible with the particular type of cartridge. (Also called Blank Videocartridge, Blank Videotape Cartridge, or Blank Cartridge.)

02. 01 02 03 01 99

Other Unrecorded Videotapes

Any unrecorded videotapes not listed and defined above.

02. 01 02 03 99

Other Electronic Display Supplies

Any other electronic display materials not listed and defined above.

02. 01 02 04

Graphics and Reproduction Supplies

The materials utilized in the production of graphic materials as exemplified in *Printed/Pictorial Materials* (02.010105), as well as materials which may be used for reproduction.

02. 01 02 04 01

Art and Graphic Art Supplies

The materials used for the preparation of original drawings, signs, and other similar art work, illustrations, and/or reproduction masters. Art supplies include, but are not limited to, such items as pens, brushes, inks, templates, stencils, papers, transfer lettering, and drawing aids.

02. 01 02 04 02

Diazo Supplies

The materials used in the diazo process. The principal items include specially prepared translucent masters, diazo film (frequently referred to as "foils"), and developer.

02. 01 02 04 03

Thermal Copy Supplies

The specially surfaced film and paper used in the thermal copy process. The film and/or paper is not sensitive to light but reacts to the heat radiated by the image area of an original when that surface is exposed to infrared light.

02. 01 **MATERIALS—Continued**02. 01 02 **Supplies—Continued**02. 01 02 04 **Graphics and Reproduction Supplies—Continued**02. 01 02 04 04 **Electrostatic Copy Supplies**

The materials used in the electrostatic copy process. Principal items include paper, film, and a pigmented powder (toner).

02. 01 02 04 05 **Wet Process Copy Supplies**

The materials used in a copying process which usually uses a gelatin matrix. The principal items include a specially treated paper, masters (matrices), and fluid.

02. 01 02 04 06 **Spirit Duplication Supplies**

The materials used in the spirit duplication process. The principal items include spirit duplicator masters (with a dye sheet backing), duplication fluid, and paper.

02. 01 02 04 07 **Rotary Stencil Duplication Supplies**

The materials used in the rotary stencil duplication process. The principal items include rotary stencils (an oiled paper which easily retains sharp lines and is easy to cut), ink, paper, and correction materials.

02. 01 02 04 08 **Offset Printing Supplies**

The materials used in the offset (lithography) printing process. The principal items include plates or masters, inks, and paper.

02. 01 02 04 09 **Mounting/Laminating Supplies**

The materials used in the mounting and/or laminating of pictures and other printed/pictorial materials. Principal items include laminating film, mounting materials, and mounting boards.

02. 01 02 04 99 **Other Graphics and Reproduction Supplies**

Any graphics and reproduction supplies not listed and defined above.

02. 01 02 05 **Photographic Supplies**

The materials used in photographic production for either still photography or for motion pictures as well as for special application such as the graphic arts. (Does not include audiorecording supplies unless they are an integral part of the film.)

02. 01 02 05 01 **Photographic Film**

A flexible, usually transparent material, one surface of which is coated with a light-sensitive emulsion on which visual data and images can be recorded (by

exposure) usually by using a camera and subsequent processing. Photographic film is supplied in a number of sizes and types for both still and motion picture photography as well as other special applications. After processing, the film may have a positive or negative image in either black and white or color.

02. 01 02 05 01 01

Motion Picture Film, 16mm

A photographic film, 16mm wide, intended for the production of motion pictures. The film may be double perforation or single perforation with or without a magnetic audiorecording stripe.

02. 01 02 05 01 02

Motion Picture Film, 8mm

A photographic film intended for motion picture production which is 8mm wide with perforations (similar to 16mm motion picture film) along one edge. The film may have a magnetic audiorecording stripe.

02. 01 02 05 01 03

Motion Picture Film, Super/Single 8mm

A photographic film intended for motion picture production and which is 8mm wide but with a single row of sprocket holes smaller and placed differently than 8mm motion picture film. The film may have a magnetic stripe for audiorecording and is usually packaged in a special cartridge. Super 8mm and single 8mm film are the same size while the cartridges are different.

02. 01 02 05 01 04

Still Photographic Film

A photographic film intended for use in still (as opposed to motion picture) photography. The film comes in a variety of sizes. Includes microfilm stock.

02. 01 02 05 01 99

Other Photographic Film, Raw Stock

Any unexposed, unrecorded photographic film, not listed and defined above.

02. 01 02 05 02

Photographic Paper

An opaque material, one surface of which is coated with a light-sensitive emulsion on which visual data and images can be recorded (by exposure and processing). Processed photographic paper may have positive or negative images, either black and white or color, and is supplied in a number of sizes and types.

02. 01 02 05 03

Photographic Chemicals

The chemicals used in the processing of photographic film and paper.

02. 01 02 05 04

Flashlamp

A high intensity photographic lamp that is fired electrically or mechanically. It generates light by rapid combustion of certain metals in oxygen. It has relatively short flashing duration and can be used only once. (Also called Flashbulbs.)

02. 01 **MATERIALS—Continued**02. 01 02 **Supplies—Continued**02. 01 02 05 *Photographic Supplies—Continued*02. 01 02 05 99 **Other Photographic Supplies**

Any photographic supplies not listed and defined above.

02. 01 02 99 *Other Supplies*

Any supplies not listed and defined above.

02. 01 99 **Other Materials**

Any materials not listed and defined above.

DEFINITION OF CLASSIFIED TERMS ABOUT DEVICES**Code Series 02.02**02. 02 **DEVICES**

The learning resources used either in the process of instruction or in its production, reproduction, transmission, or display. Devices are usually electronic, and/or electric and/or mechanical in nature. For the specific characteristics and criteria used to identify and classify devices, see "Classification of Terms about Devices" on p. 20. Page 21 contains additional information on the devices listed and defined in this handbook.

For user convenience, an overview of the major terms and categories of the devices defined in this section is found in the chart on pp. 81-82.

02. 02 01 **Audio Devices**

The devices used for the reception, recording, transmission, or reproduction of sound (only).

02. 02 01 01 *Audiotape Recorder*

A unit which can record and play back sound on audiotape. It contains heads for erasing, recording, and playback; amplifiers; and tape transport mechanisms. The recorder may be monophonic, stereophonic, or four-channel and may have provisions for comparison of channels. (See Audio Comparator, Channels, Monophonic, Stereophonic, Four-channel.) (Also called Tape Recorder, Recorder/Reproducer.)

02. 02 01 01 01 **Audiotape Recorder, Reel**

An audiotape recorder which uses only audiotapes on reels.

02. 02 01 01 02 **Audiotape Recorder, Cassette**

An audiotape recorder which uses only audiotapes in cassettes.

Overview of Terms DEVICES Code Series 02.02

02. 02 01 Audio Devices		02. 02 02 Computer Devices		02. 02 03 Graphics & Reproduction Devices		02. 02 04 Electronic Display Devices	
02. 02 01 01 Audiotape Recorder	02. 02 01 07 02 Audiotape Duplicator, Cassette	02. 02 02 01 Computer	02. 02 03 01 Diao Printer	02. 02 04 01 Videotape Recorder	02. 02 04 09 Film Chain		
02. 02 01 01 01 Audiotape Recorder, Reel	02. 02 01 07 03 Audiotape Duplicator, Cartridge	02. 02 02 02 Computer Terminal	02. 02 03 02 Spirit Duplicator	02. 02 04 01 01 Videotape Recorder, Reel	02. 02 04 10 Television Console		
02. 02 01 01 02 Audiotape Recorder, Cassette	02. 02 01 07 99 Other Audiotape Duplicators	02. 02 02 03 Computer Input Device	02. 02 03 03 Rotary Stencil Duplicator	02. 02 04 01 02 Videotape Recorder, Cassette	02. 02 04 11 Television Switcher		
02. 02 01 01 03 Audiotape Recorder, Cartridge	02. 02 01 08 Audio Console	02. 02 02 04 Computer Output Device	02. 02 03 04 Electrostatic Copier	02. 02 04 01 03 Videotape Recorder, Cartridge	02. 02 04 12 Antenna System		
02. 02 01 01 04 Audiotape Recorder, Magnetic Film	02. 02 01 09 Audio Amplification Equipment	02. 02 02 05 Computer Console	02. 02 03 05 Thermal Copier	02. 02 04 01 99 Other Videotape Recorders	02. 02 04 13 Slow-Scan Television Device		
02. 02 01 01 99 Other Audiotape Recorders	02. 02 01 10 Audio Mixer	02. 02 02 99 Other Computer Devices	02. 02 03 06 Wet Process Copier	02. 02 04 02 Videoplayer	02. 02 04 14 Television Projector		
02. 02 01 02 Audiotape Player	02. 02 01 11 Audio Compressor		02. 02 03 07 Offset Press	02. 02 04 02 01 Videoplayer, Reel	02. 02 04 15 Teletext		
02. 02 01 02 01 Audiotape Player, Reel	02. 02 01 12 Radio Receiver		02. 02 03 08 Sign Maker	02. 02 04 02 02 Videoplayer, Cassette	02. 02 04 16 Switching System		
02. 02 01 02 02 Audiotape Player, Cassette	02. 02 01 13 Listening Center		02. 02 03 09 Mechanical Lettering Device	02. 02 04 02 03 Videoplayer, Cartridge	02. 02 04 17 Remote Access Network		
02. 02 01 02 03 Audiotape Player, Cartridge	02. 02 01 14 Headset		02. 02 03 10 Photographic Lettering Device	02. 02 04 02 04 Videoplayer, Disc	02. 02 04 99 Other Electronic Display Devices		
02. 02 01 02 99 Other Audiotape Players	02. 02 01 15 Loudspeaker		02. 02 03 11 Drafting Machine	02. 02 04 02 99 Other Videoplayers			
02. 02 01 03 Audio Card Recorder	02. 02 01 16 Microphone		02. 02 03 12 Drawing Board/Table	02. 02 04 03 Videotape Editor			
02. 02 01 04 Audiotape Recorder	02. 02 01 17 Audio Induction Equipment		02. 02 03 13 Light Box	02. 02 04 04 Videotape Duplicator			
02. 02 01 05 Audiotape Player	02. 02 01 99 Other Audio Devices		02. 02 03 14 Dry Mount Press	02. 02 04 05 Television Camera			
02. 02 01 06 Audio Transcriber			02. 02 03 15 Laminator	02. 02 04 06 Television Camera Support			
02. 02 01 07 Audiotape Duplicator			02. 02 03 16 Image Modification Device	02. 02 04 07 Television Receiver			
02. 02 01 07 01 Audiotape Duplicator Reel			02. 02 03 99 Other Graphics and Re- production Devices	02. 02 04 08 Television Monitor			

02.02 DEVICES

02. 02 05 Photographic Devices	02. 02 06 Projected & Magnified Display Devices	02. 02 03 03 Sound Slide Projector, Cassette	02. 02 06 10 Stereoscope	02. 02 07 Physical Displays	02. 02 08 Subject-Matter-Related Device
02. 02 05 01 Camera	02. 02 06 01 Filmstrip Projector	02. 02 06 03 04 Sound Slide Projector, Cartridge	02. 02 06 11 Teaching Machine	02. 02 07 01 Bulletin Board	
02. 02 05 01 01 Camera, Motion Picture	02. 02 06 01 01 Filmstrip Projector, Silent	02. 02 06 03 05 Slide Projector, Ran- dom Access	02. 02 06 12 Microprojector	02. 02 07 02 Chalkboard	
02. 02 05 01 02 Camera, Still Photographic	02. 02 06 01 02 Sound Filmstrip Pro- jector, Audiodisc	02. 02 06 03 06 Audio Slide Projector	02. 02 06 13 Microform Reader	02. 02 07 03 Feltboard	
02. 02 05 01 03 Camera, Microform	02. 02 06 01 03 Sound Filmstrip Pro- jector, Cassette	02. 02 06 03 07 Lantern Slide Projector	02. 02 06 14 Microform Reader/ Printer	02. 02 07 04 Hook-and-Loop Board	
02. 02 05 01 99 Other Cameras	02. 02 06 01 04 Filmstrip/Slide Projector	02. 02 06 03 99 Other Slide Projectors	02. 02 06 15 Motion Picture Projector	02. 02 07 05 Magnetic Board	
02. 02 05 02 Camera Lens, Interchangeable	02. 02 06 01 99 Other Filmstrip Projectors	02. 02 06 04 Slide Viewer	02. 02 06 15 01 Motion Picture Projector, 16mm		
02. 02 05 03 Exposure Meter	02. 02 06 02 Filmstrip Viewer	02. 02 06 04 01 Slide Viewer, Silent	02. 02 06 15 02 Motion Picture Projector, Dual 8mm		
02. 02 05 04 Electronic Flash	02. 02 06 02 01 Filmstrip Viewer, Silent	02. 02 06 04 02 Sound Slide Viewer, Cassette	02. 02 06 15 03 Motion Picture Projector, 8mm		
02. 02 05 05 Lighting Equipment	02. 02 06 02 02 Sound Filmstrip Viewer, Audiodisc	02. 02 06 04 03 Sound Slide Viewer, Cartridge	02. 02 06 15 04 Motion Picture Projector, Super 8mm		
02. 02 05 06 Camera Support	02. 02 06 02 03 Sound Filmstrip Viewer, Cassette	02. 02 06 04 99 Other Slide Viewers	02. 02 06 15 99 Other Motion Picture Projectors		02. 02 09 Other Devices
02. 02 05 07 Copystand	02. 02 06 02 04 Sound Filmstrip Viewer, Cartridge	02. 02 06 05 Sound Synchronizer	02. 02 06 16 Film Inspection/ Cleaning Machine/2		
02. 02 05 08 Animation Stand	02. 02 06 02 99 Other Sound Film- strip Viewers	02. 02 06 06 Projector Dissolve Control	02. 02 06 17 Screen		
02. 02 05 09 Slide Duplicator	02. 02 06 03 Slide Projector	02. 02 06 07 Projection/Sound Programmer			
02. 02 05 10 Enlarger	02. 02 06 03 01 Slide Projector, Silent	02. 02 06 08 Overhead Projector			
02. 02 05 11 Darkroom Equipment	02. 02 06 03 02 Slide/Filmstrip Projector	02. 02 06 09 Opaque Projector			
02. 02 05 12 Photographic Processor					
02. 02 05 13 Motion Picture Processor					
02. 02 05 14 Motion Picture Editor					

02. 02 **DEVICES—Continued**02. 02 01 **Audio Devices—Continued**02. 02 01 01 *Audiotape Recorder—Continued*02. 02 01 01 03 **Audiotape Recorder, Cartridge**

An audiotape recorder which uses only audiotape in cartridges.

02. 02 01 01 04 **Audiotape Recorder, Magnetic Film**

An audiotape recorder which uses only magnetic film. It is used only in motion picture production.

02. 02 01 01 99 **Other Audiotape Recorders**

Any audiotape recorder not listed and defined above.

02. 02 01 02 *Audiotape Player*

A unit which can play back recorded audiotapes but which is not capable of recording. It contains a head for playback, amplifiers, and tape transport mechanisms. (Also called Playback Unit or Audio Player.)

02. 02 01 02 01 **Audiotape Player, Reel**

An audiotape player which plays only audiotapes on reels.

02. 02 01 02 02 **Audiotape Player, Cassette**

An audiotape player which plays only audiotapes in cassettes. (Also called Cassette Player.)

02. 02 01 02 03 **Audiotape Player, Cartridge**

An audiotape player which plays only audiotapes in cartridges. (Also called Cartridge Player.)

02. 02 01 02 99 **Other Audiotape Players**

Any audiotape players not listed and defined above.

02. 02 01 03 *Audiocard Recorder*

An audio recorder/player which uses only audiocards.

02. 02 01 04 *Audiopage Recorder*

An audiorecorder which uses only audiopages.

02. 02 01 05 *Audiodisc Player*

A device with built-in amplifier and speakers which reproduces sound from audiodiscs. (Also called Record Player or Phonograph.)

02. 02

DEVICES—Continued

02. 02 01

Audio Devices—Continued

02. 02 01 06

Audio Transcriber

A device which records and/or plays back a dictation/transcription belt or other audiorecording intended for transcription use.

02. 02 01 07

Audiotape Duplicator

A device used to transfer the audio signal from one audiotape to another. Duplicators usually make the transfer to one or more copies at speeds much faster than real time or ordinary playback speeds. It may duplicate audiotapes on reels, cassettes, or cartridges.

02. 02 01 07 01

Audiotape Duplicator, Reel

An audiotape duplicator whose duplicates are recorded audiotapes on reels.

02. 02 01 07 02

Audiotape Duplicator, Cassette

An audiotape duplicator whose duplicates are recorded audiotapes in cassettes.

02. 02 01 07 03

Audiotape Duplicator, Cartridge

An audiotape duplicator whose duplicates are recorded audiotapes in cartridges.

02. 02 01 07 99

Other Audiotape Duplicators

Any other audiotape duplicator not listed and defined above.

02. 02 01 08

Audio Console

A rack, bench, or desk-type structure equipped with the devices for use in processing audio signals during recording, playback, or radio broadcast of audio-recordings or live performances.

02. 02 01 09

Audio Amplification Equipment

Any electronic devices which amplify audio signals to a higher level. Includes amplifiers and preamplifiers.

02. 02 01 10

Audio Mixer

A device which permits the combining of two or more input signals simultaneously into one audio system, subject to various controls of the mixer.

02. 02 01 11

Audio Compressor

An electronic device, usually involving an audiotape, capable of compression and

expansion of an audio signal with respect to its speed without a corresponding increase or decrease in pitch.

02. 02 01 12

Radio Receiver

An electronic device which intercepts the signal of a radio broadcasting station, amplifies and translates the signal into audible sound. A receiver may be designated frequency modulation (FM), amplitude modulation (AM), or both.

02. 02 01 13

Listening Center

An audio distribution device into which headsets can be connected to enable more than one learner to listen to an audio program. It may have more than one channel and may have volume controls. The entire unit may be permanently mounted or packed into a storage case.

02. 02 01 14

Headset

A device consisting of one or two small loudspeakers or audio reproducers connected to a headband for individual listening to audio sources. Some headsets are equipped with a small microphone to permit two-way communication. Includes special headsets used with audio induction loops. (Also called Headphone or Earphone.)

02. 02 01 15

Loudspeaker

A device which converts electrical impulses into sounds. Speakers may be in portable enclosures or permanently installed. (Also called Speaker.)

02. 02 01 16

Microphone

A device which converts sounds into electrical signals.

02. 02 01 17

Audio Induction Equipment

Devices in a low power audio broadcast system utilizing a large loop as an antenna.

02. 02 01 99

Other Audio Devices

Any audio devices not listed and defined above.

02. 02 02

Computer Devices

A computer and those devices which will enable a computer to perform its task. The combination of devices is capable of accepting information, applying prescribed processes to the information, and supplying the results of the application of these processes, all without human intervention.

02. 02 02 01

Computer

A data processor that can perform substantial computation, including numerous

02. 02

DEVICES—Continued

02. 02 02

Computer Devices—Continued

02. 02 02 01

Computer—Continued

arithmetic or logic operations, without intervention by a human operator during the run.

02. 02 02 02

Computer Terminal

A unit which permits one or two-way communication between a user and computer via communications lines. The device may include features such as a cathode ray tube, typewriter/teletype unit, light pen, printer, plasma panel, television receiver, touch sensitive panel, keyboard, card reader, tape reader, or audio output unit. Intelligent terminals should be recorded as terminals unless a major portion of their use is as a computer. (See Intelligent Terminal, p. 215.)

02. 02 02 03

Computer Input Device

A device which translates data from its input format (e.g. cards, mark-sensing forms) and conveys it to the computer. Includes card readers, optical scanners, etc.

02. 02 02 04

Computer Output Device

A device which conveys the data from the computer into another format, e.g., printed materials, cathode ray tube display. Includes printers, plotters, computer output microfilmer, etc.

02. 02 02 05

Computer Console

The part of a computer used for communication between the operator or maintenance engineer and the computer. Does *not* include *Computer Terminal*, 02.020202, *Computer Input Device*, 02.020203, or *Computer Output Device*, 02.020204.

02. 02 02 99

Other Computer Devices

Any computer devices not listed and defined above.

02. 02 03

Graphics and Reproduction Devices

The equipment utilized in the production and reproduction of graphic materials.

02. 02 03 01

Diazo Printer

The device(s) necessary for the production of diazo-sensitized materials. It may consist of an ultraviolet exposure unit only, or may include both exposure and developing units.

02. 02 03 02

Spirit Duplicator

A duplicating machine which prints on paper from a paper master (original) on

which there is a dye image. Paper passing through the machine is dampened slightly with a special fluid to receive and retain the dye image.

02. 02 03 03

Rotary Stencil Duplicator

A machine for making copies of written matter or drawings by means of a stencil fastened to a rotating drum. Ink is squeezed through the stencil, thereby making a copy on the paper fed through the machine. (Also called Stencil Duplicator.)

02. 02 03 04

Electrostatic Copier

A machine that prints a page at a time by an electrostatically charged powder deposited on the page with the entire page determined before printing.

02. 02 03 05

Thermal Copier

A copying machine which exposes and develops images by infrared heat on special films and papers.

02. 02 03 06

Wet Process Copier

A copy machine which utilizes a wet, gelatin-transfer process in transferring images on specially prepared paper.

02. 02 03 07

Offset Press

A printing press using the photo-offset lithography wherein the inked surface does not come into contact with the paper to be printed.

02. 02 03 08

Sign Maker

A hand-operated small printing press with large, movable type. It is used mostly to make signs and posters which have no pictorial material.

02. 02 03 09

Mechanical Lettering Device

A device with lettering guides and scribe pens used in the lettering (by hand) of signs, mechanical drawings, and other original artwork.

02. 02 03 10

Photographic Lettering Device

A device with a master alphabet negative, exposure, and processing units which produce photographic copies of selected letters on strips of paper or film. (Also called Headliner, Strip Printer.)

02. 02 03 11

Drafting Machine

A mechanical device for reading measurements and creating lines of any angle anywhere on a drawing board or table. It combines the drafting functions of a T-square, a protractor, and a triangle.

02. 02 03 12

Drawing Board/Table

A rectangular, smooth, special working surface, for drawing, drafting, and illustrating.

02. 02

DEVICES—Continued

02. 02 03

Graphics and Reproduction Devices—Continued

02. 02 03 13

Light Box

A back-illuminated, translucent surface, used for viewing and working with transparent graphics and photographic materials. (Also called Light Table.)

02. 02 03 14

Dry Mount Press

An electrically heated press which applies heat and pressure for mounting and/or laminating flat graphics and photographic materials.

02. 02 03 15

Laminator

A device which passes flat material through rollers and applies heat and/or pressure to seal a clear adhesive plastic surface on flat material. Does *not* include *Dry Mount Press* (02.020314), although it can be used for laminating.

02. 02 03 16

Image Modification Device

A camera-like device used for enlarging or reducing the images on two-dimensional artwork or copy and projecting it on a translucent plate in the device. The image can then be traced or (in some models) copied by using light-sensitive materials. (Also called Enlarging-Reducing Machine, Enlarger-Reducer.)

02. 02 03 99

Other Graphics and Reproduction Devices

Any graphics and reproduction devices not listed and defined above.

02. 02 04

Electronic Display Devices

The equipment used in the production and electronic transmission of visual images and sound.

02. 02 04 01

Videotape Recorder

A device which can record images and sound on videotape and which can play back the videotape for viewing on a television monitor or special receiver. The videotape recorder may use reels or cartridges or cassettes. Most videotape recorders used in instructional programs are helical-scan type. (Also called VTR.) (See also *Videotape Editor* (02.020403).)

02. 02 04 01 01

Videotape Recorder, Reel

A videotape recorder which uses videotapes on reels.

02. 02 04 01 02

Videotape Recorder, Cassette

A videotape recorder which uses videotapes in cassettes.

02. 02 04 01 03 *Videotape Recorder, Cartridge*

A videotape recorder which uses videotapes in cartridges.

02. 02 04 01 99 *Other Videotape Recorders*

Any videotape recorder not listed above.

02. 02 04 02 *Videoplayer*

A device which can reproduce sound and pictures from a videotape or videodisc on a television monitor or special receiver. It cannot record images or sound. The unit may use videotape on reels or in cartridges or cassettes.

02. 02 04 02 01 *Videoplayer, Reel*

A videoplayer which plays videotapes on reels. It cannot record images or sound.

02. 02 04 02 02 *Videoplayer, Cassette*

A videoplayer which plays videotapes in cassettes. It cannot record images or sound.

02. 02 04 02 03 *Videoplayer, Cartridge*

A videoplayer which plays videotapes in cartridges. It cannot record images or sound.

02. 02 04 02 04 *Videoplayer, Disc*

A videoplayer which plays videodiscs. It cannot record images or sound.

02. 02 04 02 99 *Other Videoplayers*

Any videoplayers not listed and defined above.

02. 02 04 03 *Videotape Editor*

A videotape recorder with special features which allow the electronic editing and rerecording of videotapes. (Do not count as a *Videotape Recorder* (02.020401).)

02. 02 04 04 *Videotape Duplicator*

A specially designed videotape recorder which duplicates one or more videotapes usually at a higher speed than normal playback speed.

02. 02 04 05 *Television Camera*

A device which converts visual images into electrical signals which can be recorded and/or viewed on a television monitor.

02. 02

DEVICES—Continued

02. 02 04

Electronic Display Devices—Continued

02. 02 04 06

Television Camera Support

The device used to support a television camera during use. Includes pedestals, tripods, etc.

02. 02 04 07

Television Receiver

An electronic device which intercepts the signal of a television broadcast or (with adaption) television signals from other sources, amplifies and translates the signals into image and sound.

02. 02 04 08

Television Monitor

An electronic device that amplifies and translates some television signals (but *not* broadcast signals) into pictures and sound.

02. 02 04 09

Film Chain

A system of fixed television camera(s) and appropriate projectors utilized to transmit projected materials (usually slides, motion pictures, or filmstrips) through a television system.

02. 02 04 10

Television Console

A piece of television equipment incorporating a number of devices including controls for picture and sound monitoring and selection (see *Television Switcher*, 02.020411); controls for special effects; and controls for making technical adjustments to maintain the signal quality.

02. 02 04 11

Television Switcher

A portable device that allows selection of the television signals from any of several video sources such as television cameras, videotape recorder, or film chain. (Do *not* count Television Switcher separately if it is incorporated into a *Television Console* (02.020410).)

02. 02 04 12

Antenna System

A device or devices to intercept radio or television broadcast signals and distribute them efficiently to radios or television receivers. Includes antennas, antenna distribution systems, and amplifiers related to the antenna system. Does *not* include internal or small add-on antennas, e.g. "rabbit ears," of radio and television receivers.

02. 02 04 13

Slow-Scan Television Device

A device which compresses the video signal to a bandwidth suitable for transmission over telephone lines. Slow-scan television usually cannot reproduce moving images since it takes many seconds to recreate one picture.

02. 02 04 14

Television Projector

An electronic device that projects television images onto a screen. (Also called Television Beam Projector, Telebeam Projector.)

02. 02 04 15

Teletwriter

A device which transmits (live) and displays handwriting and simple drawings over telephone lines.

02. 02 04 16

Switching System

An electronic device which controls the interfacing of one or more electronic terminals automatically with information or program sources from stations in a *Remote Access Network* (02.020417). The system processes the signal which activate a chosen audio or video playback source to transmit its program by electrical circuit to the selector listening and/or viewing station(s).

02. 02 04 17

Remote Access Network

A system of program sources and remote terminals linked by electrical circuits with users at terminals having some means of selecting the program to be transmitted to them on demand. Terminals and program sources may use audio and/or video programs.

02. 02 04 99

Other Electronic Display Devices

Any electronic display devices not listed and defined above.

02. 02 05

Photographic Devices

The devices used in photographic production, either still photography, motion picture photography, or microfilming.

02. 02 05 01

Camera

A device with a light-tight chamber used for making a record (usually on sensitized material such as photographic film) of the image formed when light rays pass through a lens or opening and fall upon the light sensitive material. Cameras usually consist of a lens, a shutter, and film transport. Most cameras are classified by their purpose and film size.

02. 02 05 01 01

Camera, Motion Picture

A camera which can make motion pictures. Motion picture cameras are available for making sound or silent motion pictures. The most common sizes found in instructional institutions are 16mm, 8mm, super 8mm, and single 8mm.

02. 02 05 01 02

Camera, Still Photographic

A camera used for making photographs (or negatives) intended to be shown as single photographs. They are available in a variety of types for different films and

02. 02 DEVICES—Continued

02. 02 05 Photographic Devices—Continued

02. 02 05 01 Camera—Continued

02. 02 05 01 02 Camera, Still Photographic—Continued

purposes. The most commonly used for production in instructional institutions are 35mm and 2¼ by 2¼-inch cameras, so called because of the film sizes which they use.

02. 02 05 01 03 Camera, Microform

A camera specially designed to reduce objects (usually documents) to microimages on special film. Does *not* include Computer Output Microfilm. See *Computer Output Device* (02.020204).

02. 02 05 01 99 Other Cameras

Any camera not listed and defined here.

02. 02 05 02 Camera Lens, Interchangeable

An optical device which forms the image on the film and which is interchangeable with other lenses on the body of the camera. (Do *not* record plus lenses or other lenses which are added to the lens mounted on the camera.)

02. 02 05 03 Exposure Meter

A photographic device used either to measure light falling on or reflected from the object to be photographed. Special adaptations include a flash meter, used to measure light from an electronic flash or flashlamp, and a color meter, used to measure color temperature. (Also called a Light Meter.) Do *not* record exposure meters which are a part of a camera.

02. 02 05 04 Electronic Flash

An electronic lighting device which gives off a brief but intense flash of light to illuminate the object to be photographed. Many are portable and may be attached to the camera. Includes any stands and supports, filters, cords, portable power sources and accessories.

02. 02 05 05 Lighting Equipment

The lights used to provide constant illumination for the object to be photographed. Includes stands and supports, filters, reflectors, and accessories used to change the color and amount of light. Does *not* include *Electronic Flash* (02.020504), or *Flashlamps* (02.01020504).

02. 02 05 06 Camera Support

A device used to support a camera during photography. Includes tripods, high hats, monopods, etc.

02. 02 05 07

Copystand

A vertical or horizontal stand with an adjustable bracket to hold a camera for photographing flat materials at close range. Some copystands may have permanently attached cameras.

02. 02 05 08

Animation Stand

An adjustable stand which holds a motion picture camera in vertical relationship to flat artwork on a movable bed with registration pins. It is used to produce animated motion pictures and sometimes used to produce filmstrips and slides.

02. 02 05 09

Slide Duplicator

An adjustable stand which holds a camera, lens, and illumination source for optical duplication of slides. The camera and lens may be a part of the stand. Do *not* record a portable slide duplicating unit without illumination source here. Record it as *Camera Lens, Interchangeable* (02.020502).

02. 02 05 10

Enlarger

A projection device used for printing images of increased or reduced size on paper or film from a photographic negative.

02. 02 05 11

Darkroom Equipment

Devices used during the printing and processing of films and paper. Include trays, tanks, film reels, washers and dryers, but *not Enlarger* (02.020510), or *Photographic Processor* (02.020512).

02. 02 05 12

Photographic Processor

A device in which still photographic films or papers (but not motion picture films) are automatically developed, fixed, and sometimes washed and dried. (Also called a Processing Machine or Film Processor.)

02. 02 05 13

Motion Picture Processor

A device in which motion picture film (usually in minimum lengths of 25 feet) is developed and fixed.

02. 02 05 14

Motion Picture Editor

A device for viewing motion picture film for editing purposes. It is equipped with variable speed control or hand operated and can be easily stopped, started, or reversed to view the film one or more frames at a time. Some models are for silent motion pictures only while others are for silent and sound motion pictures.

02. 02 05 99

Other Photographic Devices

Any photographic devices not listed and defined above.

02. 02 DEVICES—Continued

02. 02 06 Projected and Magnified Display Devices

Devices which enlarge or magnify visual images for viewing. Some have provisions for sound accompaniment.

02. 02 06 01 *Filmstrip Projector*

A device designed to project filmstrips (usually 35mm) and which normally projects a single-frame filmstrip and may project a double-frame filmstrip. Models are available with provision for playing accompanying audiorecordings. Some models have automatic advance mechanisms keyed to the audiorecording.

02. 02 06 01 01 Filmstrip Projector, Silent

A filmstrip projector without provision for playing audiorecordings accompanying the filmstrip.

02. 02 06 01 02 Sound Filmstrip Projector, Audiodisc

A filmstrip projector with a built-in audiodisc player to reproduce sound accompaniment for the filmstrip. The projector may have automatic advance keyed to signals on the audiodisc.

02. 02 06 01 03 Sound Filmstrip Projector, Cassette

A filmstrip projector with a built-in cassette audiotape player or recorder which reproduces sound accompaniment for the filmstrip. The projector may have an automatic advance keyed to signals on the audiotape.

02. 02 06 01 04 Filmstrip/Slide Projector

A filmstrip projector (usually silent) equipped with an adapter or carrier to accept 2 by 2-inch slides.

02. 02 06 01 99 Other Filmstrip Projectors

Any filmstrip projector not listed and defined above.

02. 02 06 02 *Filmstrip Viewer*

A device equipped with a built-in viewing glass or rear projection screen for viewing filmstrips, usually single-frame filmstrips. Models are available with provision for playing accompanying audiorecordings. Some models have automatic advance mechanisms keyed to the audiorecording.

02. 02 06 02 01 Filmstrip Viewer, Silent

A filmstrip viewer without provision for playing audiorecordings accompanying the filmstrip.

02. 02 06 02 02

Sound Filmstrip Viewer, Audiodisc

A filmstrip viewer with a built-in audiodisc player for the filmstrip to reproduce sound accompaniment. The viewer may have automatic advance keyed to signals on the audiodisc.

02. 02 06 02 03

Sound Filmstrip Viewer, Cassette

A filmstrip viewer with built-in cassette audiotape player or recorder for reproducing sound accompaniment for the filmstrip. The viewer may have automatic advance keyed to signals on the audiotape.

02. 02 06 02 04

Sound Filmstrip Viewer, Cartridge

A filmstrip viewer equipped with a built-in cartridge audiotape player or recorder to reproduce sound accompaniment for the filmstrip. The projector usually has an automatic advance keyed to signals on the audiotape. The filmstrip used in this projector often has its ends joined together to form a loop for continuous showing.

02. 02 06 02 99

Other Sound Filmstrip Viewers

Any sound filmstrip viewers not listed and defined above.

02. 02 06 03

Slide Projector

A device designed to project slides or transparencies mounted in small frames, usually 2 by 2 inches. Some models have provision for sound and/or accept trays, cartridges, or drums.

02. 02 06 03 01

Slide Projector, Silent

A slide projector which shows only 2 by 2-inch or 2¼ by 2¼-inch slides and has no provision for playing audiorecordings or for showing filmstrips.

02. 02 06 03 02

Slide/Filmstrip Projector

A slide projector which has a special attachment to project filmstrips.

02. 02 06 03 03

Sound Slide Projector, Cassette

A slide projector with a built-in cassette audiotape player or recorder to reproduce sound accompaniment for the slides. The projector may have automatic advance keyed to signals on the audiotape.

02. 02 06 03 04

Sound Slide Projector, Cartridge

A slide projector with a built-in cartridge audiotape player or recorder to reproduce sound accompaniment for the slides. The projector may have automatic advance keyed to signals on the audiotape.

02. 02 06 03 05

Slide Projector, Random Access

A slide projector specially modified so slides already in the drum or tray can be

02. 02

DEVICES—Continued

02. 02 06

Projected and Magnified Display Devices—Continued

02. 02 06 03

Slide Projector—Continued

02. 02 06 03 05

Slide Projector, Random Access—Continued

shown in any sequence by the operator using a remote control device to select the next slide to be shown.

02. 02 06 03 06

Audioslide Projector

A slide projector which projects audioslides and plays the sound on the slide frame. Audioslide projectors have provision for recording sound on the audioslide.

02. 02 06 03 07

Lantern Slide Projector

A slide projector designed to accept standard 3¼ by 4-inch lantern slides, and occasionally smaller slides with the provision of special adapters and, usually, a different projection lens.

02. 02 06 03 99

Other Slide Projectors

Any slide projectors not listed and defined above.

02. 02 06 04

Slide Viewer

A device equipped with a built-in viewing glass or rear projection screen for viewing slides. Models are available with provision for playing accompanying audiorecordings. Some models have automatic advance mechanisms keyed to the audiorecording.

02. 02 06 04 01

Slide Viewer, Silent

A slide viewer with no provision for playing audiorecordings accompanying the slides.

02. 02 06 04 02

Sound Slide Viewer, Cassette

A slide viewer with a built-in cassette audiotape player or recorder for reproducing the sound accompaniment for the slides. The viewer may have automatic advance keyed to signals on the audiotape.

02. 02 06 04 03

Sound Slide Viewer, Cartridge

A slide viewer with a built-in cartridge audiotape player or recorder for reproducing the sound accompaniment for the slides. The viewer may have automatic advance keyed to signals on the audiotape.

02. 02 06 04 99

Other Slide Viewers

Any slide viewers not listed and defined above.

02. 02 06 05

Sound Synchronizer

A device linking an audiotape player or recorder and an automatic slide projector or filmstrip projector and which causes the projector to advance at a signal on the audiotape. (Do not record here any sound synchronizer built into an audiotape recorder or player.)

02. 02 06 06

Projector Dissolve Control

A device which controls the illumination from two or more projectors so that images on the screen seem to dissolve from one into another. The unit is usually electronic in nature and dims one projection lamp while simultaneously raising the intensity of the other. (Do not record a television dissolve unit here.)

02. 02 06 07

Projection/Sound Programmer

A device which controls the operation or synchronization among sound reproduction and/or projection devices.

02. 02 06 08

Overhead Projector

A device designed to project images from transparent and translucent materials. The projector is placed in front of the viewers and may be used in a semidarkened or completely lighted room. Models are available for accepting transparencies from 3¼ by 4 inches to 10 by 10 inches.

02. 02 06 09

Opaque Projector

A device designed to project images of nontransparent, flat objects, such as maps, pictures, or printed pages onto a screen by using light reflected from the opaque object. The maximum original image size is usually 10 by 10 inches.

02. 02 06 10

Stereoscope

An optical device with two lenses enabling each eye to see a separate image of essentially the same scene. The combined image seen by the two eyes gives the effect of three dimensions, as in normal binocular vision.

02. 02 06 11

Teaching Machine

A device which mechanically or electrically presents an instructional program at a rate controlled by the learner's responses to the machine.

02. 02 06 12

Microprojector

A device designed to enlarge and project microscopic transparencies such as microscope slides for viewing by large audiences.

02. 02 06 13

Microform Reader

A projection device for viewing an enlarged microform with the unaided eye. (Includes microfilm readers, microfiche readers, micro-opaque readers, ultrafiche readers, and combinations of these.)

02. 02 DEVICES—Continued

02. 02 06 Projected and Magnified Display Devices—Continued

02. 02 06 14 *Microform Reader/Printer*

A microform reader with a built-in machine which projects an image from the microform and copies (may expose, develop, and fix) the image on a suitable material.

02. 02 06 15 *Motion Picture Projector*

A device designed to project motion pictures. It may be equipped to reproduce sound on either magnetic, optical, or both types of sound tracks and may have audio recording capability. The most common types of motion picture projectors in instructional institutions are 16mm, 8mm, and super 8mm. (Some projectors have built-in viewing screens but should still be recorded as projectors, not viewers.)

02. 02 06 15 01 *Motion Picture Projector, 16mm*

A motion picture projector using 16mm motion pictures. Sixteen mm projectors are usually equipped to reproduce sound from magnetic, optical, or both types of sound tracks.

02. 02 06 15 02 *Motion Picture Projector, Dual 8mm*

A motion picture projector using either 8mm or super 8mm motion pictures. The projector is specially designed to accommodate both 8mm and super 8mm formats. Projectors may be silent or have sound capability, either for magnetic or optical soundtracks (but not both).

02. 02 06 15 03 *Motion Picture Projector, 8mm*

A motion picture projector using only 8mm motion pictures. Projectors may be silent or have sound capability, either for optical or magnetic soundtracks (but not both). Some use film loaded into cartridges or cassettes.

02. 02 06 15 04 *Motion Picture Projector, Super 8mm*

A motion picture projector using only super 8mm motion pictures. Projectors may be silent or have sound capability, either for optical or magnetic soundtracks (but not both). Some use film loaded into cartridges or cassettes.

02. 02 06 15 99 *Other Motion Picture Projectors*

Any motion picture projectors not listed and defined above.

02. 02 06 16 *Film Inspection/Cleaning Machine*

A device which automatically inspects motion pictures and filmstrips for damage and/or cleans the motion picture or filmstrip.

02. 02 06 17

Screen

A prepared surface on which images are projected. The surface of the screen affects the brightness of the image and the angle of viewing. Screens may be portable or fixed installations, front or rear projection.

02. 02 06 99

Other Projected and Magnified Display Devices

Any projected and magnified display devices not listed and defined above.

02. 02 07

Physical Displays

A display area to which items are attached or on which information is written.

02. 02 07 01

Bulletin Board

A board of cork, wood, or other soft material to which pictures or other materials that are intended for display can be fastened.

02. 02 07 02

Chalkboard

A smooth surface of slate, glass, or other material used for presentation by writing or drawing with chalk, crayon, pen, or other easily erased materials.

02. 02 07 03

Flannelboard

A display board made of cardboard or thin wood and covered with flannel, flocking, or similar cloth to which pictures and symbols backed with the same or similar materials will adhere. (Also called Flannelgraph, Flannelboard.)

02. 02 07 04

Hook-and-Loop Board

A presentation board consisting of a surface containing tiny nylon loops on which display materials, backed with tape strips having tiny nylon hooks, will intermesh and hold firmly.

02. 02 07 05

Magnetic Board

A sheet of ferrous metal to which objects may be attached by means of magnets. This same surface may be coated with enamel or chalkboard paint and be used as a chalkboard or display board.

02. 02 07 99

Other Physical Displays

Any physical displays not listed and defined above.

02. 02 08

Subject-Matter-Related Device

A device which is peculiar to a specific subject matter or content. (See CONTENT, 02.05 for a listing of specific disciplines.) Some examples are: a piano for music instruction; automobiles for driver education; stoves for home economics; welding tools for metal shop.

02. 02 **DEVICES—Continued**02. 02 99 **Other Devices**

Any devices not listed and defined above.

DEFINITIONS OF CLASSIFIED TERMS ABOUT TECHNIQUES**Code Series 02.03**02. 03 **TECHNIQUES**

The learning resources which provide the structure for the presentation of information to the learner. Techniques are approaches to, procedures for, or methods of instruction. A technique may be an integral part of a material (such as programmed instruction) or a method used without other specific materials (such as seminars and discussion).

For an explanation of techniques as well as their relationship to other learning resources and to instruction, see "Classification of Terms about Techniques" on p. 25.

For user convenience, an overview of the terms and categories of techniques is found in the chart on p. 101.

02. 03 01 **General Techniques of Instruction**

The procedures or approaches for structuring and/or transmitting a learning experience which can be applied to a number of different learning experiences.

02. 03 01 01 **Comparative Analysis**

A thought process, structured by the teacher, employing the description, classification, and analysis of more than one system, group or the like so as to ascertain and evaluate similarities and differences. (VI)

02. 03 01 02 **Demonstration**

Any activity in which the instructor or another person uses examples, experiments, and/or other actual performance in order to illustrate a principle or show others how to do something. (VI)

02. 03 01 03 **Directed Observation**

A guided observation provided for the purpose of improving the study, understanding, and evaluation of that which is observed. (VI)

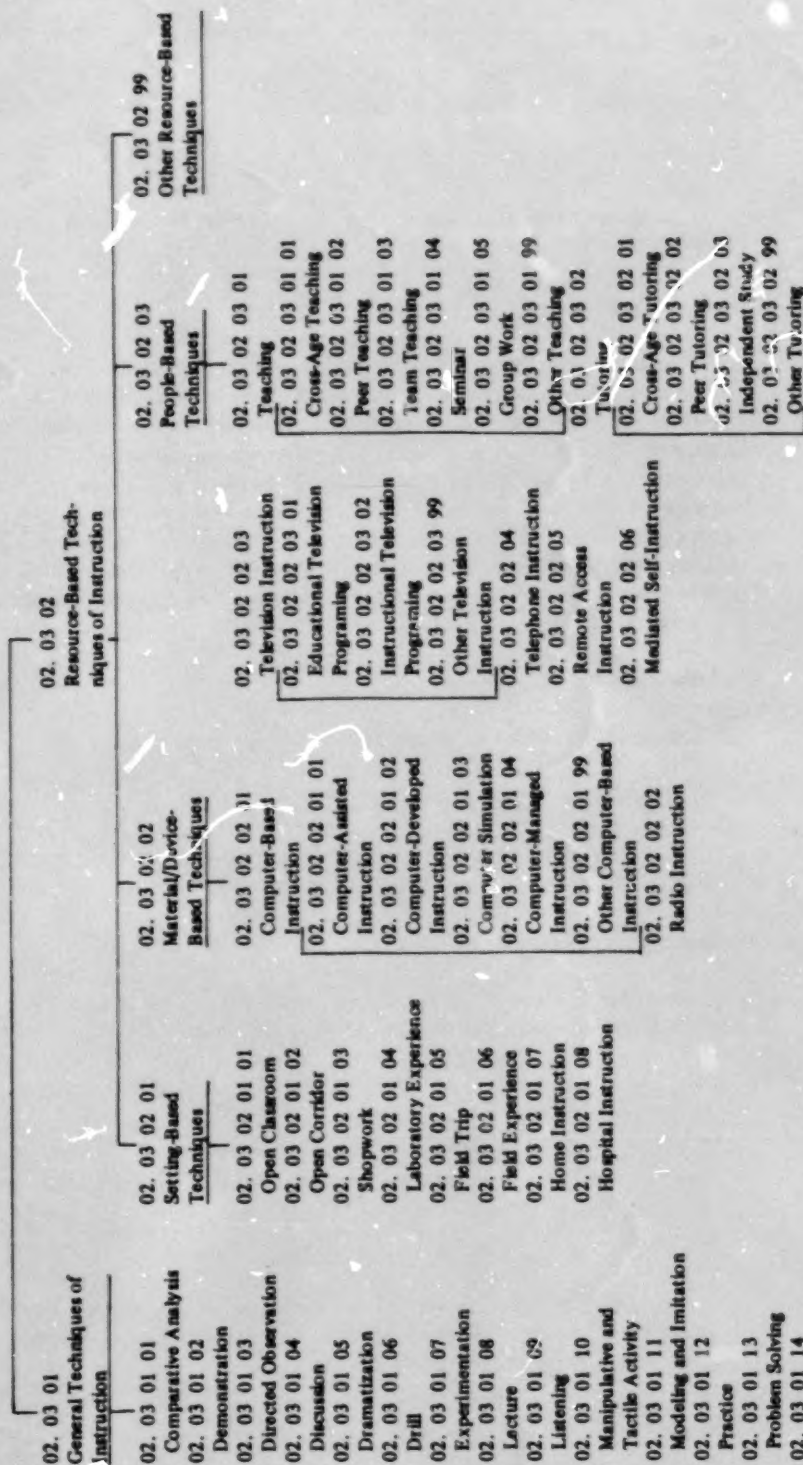
02. 03 01 04 **Discussion**

An activity in which learners, under instructor and/or learner direction, exchange points of view concerning a topic, question, or problem in order to arrive at a decision or conclusion. (VI)

02. 03 01 05 **Dramatization**

A learning experience concerned with expressive interpretation of ideas, concepts, and/or roles. (VI)

Overview of Terms
TECHNIQUES
Code Series 02.03



02. 03

TECHNIQUES—Continued

02. 03 01

General Techniques of Instruction—Continued

02. 03 01 06

Drill

An orderly, repetitive, learning activity intended to help develop or fix a specific skill or aspect of knowledge. (VI)

02. 03 01 07

Experimentation

An activity involving a planned procedure accompanied by control of conditions and/or controlled variation of conditions together with observation of results for the purpose of discovering relationships and evaluating the reasonableness of a specific hypothesis. (VI)

02. 03 01 08

Lecture

An activity in which the instructor gives a verbal presentation of facts or principles, the class frequently being responsible for note taking. This activity usually involves little or no learner participation by questioning or discussion. (VI)

02. 03 01 09

Listening

An activity provided for learners to learn by auditory means. (VI)

02. 03 01 10

Manipulative and Tactile Activity

An activity by which learners utilize the movement of various muscles and the sense of touch in order to develop manipulative and/or perceptual skills. (VI)

02. 03 01 11

Modeling and Imitation

An activity in which the learners listen to and observe a model as a basis upon which to practice and improve their performance. (VI-M)

02. 03 01 12

Practice

An activity in which learners have an opportunity to put into practice those skills and understandings previously learned through other instructional activities. (VI)

02. 03 01 13

Problem Solving

A thought process structured by the instructor and employed by the learners for clearly defining a problem, forming hypothetical solutions, and possibly testing the hypothesis. Includes inquiry method. (VI)

02. 03 01 14

Programed Instruction

A learner-paced learning activity which includes instruction in small steps, responses by the learner, and immediate knowledge of the accuracy of his responses.

02. 03 01 15

Project

A significant practical unit of activity, having educational value, aimed at one or more definite goals of understanding, and involving the investigation and solution of problems.

02. 03 01 16

Recitation

An activity devoted to reporting to a class or other group about information acquired through individual study or group work. (VI)

02. 03 01 17

Simulation

A learning process which involves pupils as participants in role presentations and/or games simulating real-life situations or environments. (VI)

02. 03 01 18

Gaming

An activity in which learners compete physically or mentally according to a prescribed set of rules.

02. 03 01 99

Other General Techniques of Instruction

Any general techniques of instruction not listed and defined above.

02. 03 02

Resource-Based Techniques of Instruction

A procedure or approach for structuring and/or transmitting a learning experience which is peculiar to a specific learning resource.

02. 03 02 01

Setting-Based Techniques

An instructional technique characterized by a particular setting or environment.

02. 03 02 01 01

Open Classroom

An instructional technique utilizing a classroom setting to provide maximum freedom for the pursuit of students' interests. The classroom layout emphasizes a number of specialized interest areas rather than the usual student seating arrangements.

02. 03 02 01 02

Open Corridor

An instructional technique utilizing the hall space between classrooms to encourage peer and cross-age teaching.

02. 03 02 01 03

Shopwork

A learning activity conducted in shop spaces emphasizing experiences in woodwork, metalwork, or other industrial processes and procedures. (VI)

02. 03 02 01 04

Laboratory Experience

A learning activity carried on in a laboratory designed for individual or group study of a particular subject-matter area, involving the practical application of

02. 03

TECHNIQUES—Continued

02. 03 02

Resource-Based Techniques of Instruction—Continued

02. 03 02 01

Setting-Based Techniques—Continued

02. 03 02 01 04

Laboratory Experience—Continued

theory through observation, experimentation, and research, or in the case of foreign language instruction, involving learning through demonstration, drill, and practice. This applies also to the study of art and music, though such activity, in this instance, may be referred to as a studio experience. (VI)

02. 03 02 01 05

Field Trip

An educational trip to one or more places where learners may study the content of instruction directly in its functional setting, e.g., a trip to a factory, newspaper office, or fire department. (VI)

02. 03 02 01 06

Field Experience

Any educational work experience, sometimes fully reimbursed, acquired by learners in a practical service situation. (VI-M)

02. 03 02 01 07

Home Instruction

An instructional activity provided in a residence. (VI-M)

02. 03 02 01 08

Hospital Instruction

An instructional activity provided in a hospital, sanatorium, or convalescent home for learners unable to leave the institution. (VI-M)

02. 03 02 01 99

Other Setting-Based Techniques

Any setting-based techniques not listed and described above.

02. 03 02 02

Material/Device-Based Techniques

An instructional technique characterized by a particular material/device interaction with the student.

02. 03 02 02 01

Computer-Based Instruction

Any instructional technique which utilizes a computer.

02. 03 02 02 01 01

Computer-Assisted Instruction

An automated instructional technique in which a computer is used to present an instructional program to the learner. Learning activities may include drill and practice, tutorial instruction and dialogue. (Also called CAI.)

02. 03 02 02 01 02

Computer-Developed Instruction

An instructional technique which uses a computer as an integral part of the arrangement, selection, and/or production of materials or experiences designed to facilitate learning. Does *not* include procedures in which the learner directly interacts with the computer. (Also called CDI.)

02. 03 02 02 01 03

Computer Simulation

A technique in which a learner, using direct access to a computer, interacts with a mathematical model or simulation of a real situation in order to learn the process.

02. 03 02 02 01 04

Computer-Managed Instruction

An instructional technique in which a computer is used to maintain learner performance and instructional progress data to enable the instructor to better select learning activities for the learner. (Also called CMI.)

02. 03 02 02 01 99

Other Computer-Based Instruction

Any computer-based instruction not listed and defined above.

02. 03 02 02 02

Radio Instruction

An instructional technique utilizing radio broadcasts, either shortwave, FM, or AM bands.

02. 03 02 02 03

Television Instruction

An instructional technique utilizing television and television programs.

02. 03 02 02 03 01

Educational Television Programing

Television programing designed to cover a broad range of educational and cultural subjects. The programing may also be designed for use by schools in connection with regular school courses. (Also called ETV.)

02. 03 02 02 03 02

Instructional Television Programing

Lesson-planned programs, developed and conducted largely in school systems or universities, often with the option for credit. (Also called ITV.)

02. 03 02 02 03 99

Other Television Instruction

Any television instruction not listed and defined above.

02. 03 02 02 04

Telephone Instruction

An instructional technique using telephone communication. (Includes Tele-lecture and Telephone School-Home Communication.)

02. 03

TECHNIQUES—Continued

02. 03 01

Resource-Based Techniques of Instruction—Continued

02. 03 02 02

Material/Device-Based Techniques—Continued

02. 03 02 02 05

Remote Access Instruction

An instructional technique utilizing a Remote Access Information System, 03.05050109.

02. 03 02 02 06

Mediated Self-Instruction

An instructional technique utilizing materials (and any needed devices) to instruct learners with a minimum of human intervention.

02. 03 02 02 99

Other Material/Device-Based Techniques

Any material/device-based techniques not listed and defined above.

02. 03 02 03

People-Based Techniques

An instructional technique characterized by direct, in-person/instructor-learner interaction.

02. 03 02 03 01

Teaching

An instructional technique characterized by the direct, in-person interaction between a person (or persons) responsible for teaching and a group of learners.

02. 03 02 03 01 01

Cross-Age Teaching

A technique in which one or more learners provide instruction for a group of learners of a different age group. The learners responsible for instruction have already mastered the content and skills being taught.

02. 03 02 03 01 02

Peer Teaching

A technique in which one or more learners provide instruction for a group of learners of the same age, or placed in the same homogeneous grouping. The learners responsible for instruction have already mastered the content and skills being taught.

02. 03 02 03 01 03

Team Teaching

An instructional technique which involves two or more teachers planning, instructing, and evaluating together for a given group of students. (VI)

02. 03 02 03 01 04

Seminar

An instructional technique in which a group of learners, engaged in research or advanced study, meets under the general direction of one or more teachers for a discussion. (VI-M)

02. 03 02 03 01 05

Group Work

An instructional technique in which members of the class, working cooperatively rather than individually, formulate and work toward common objectives under the direct guidance of one or more leaders. (VI)

02. 03 02 03 01 99

Other Teaching

Any other teaching not listed and defined above.

02. 03 02 03 02

Tutoring

An instructional technique in which instruction is provided to an individual learner by direct interaction, in person with a teacher. (VI)

02. 03 02 03 02 01

Cross-Age Tutoring

An instructional technique in which instruction is provided an individual learner by direct interaction with another learner of a different age group, usually older. The learner responsible for instruction has already mastered the content and skills being taught.

02. 03 02 03 02 02

Peer Tutoring

An instructional technique in which instruction is provided an individual learner by direct interaction with another learner the same age or from the same homogeneous grouping. The learner responsible for instruction has already mastered the content and skills being taught.

02. 03 02 03 02 03

Independent Study

An instructional technique in which learners carry on their learning activities without formal classes but consult with a teacher or teachers as they complete individual study projects. (VI-M)

02. 03 02 03 02 99

Other Tutoring

Any other tutoring not listed and defined above.

02. 03 02 03 99

Other People-Based Techniques

Any people-based techniques not listed and defined above.

02. 03 02 99

Other Resource-Based Techniques

Any resource-based techniques not listed and defined above.

02. 03 03

Other Techniques

Any techniques not listed and defined above.

DEFINITIONS OF CLASSIFIED TERMS ABOUT SETTINGS

Code Series 02.04

02. 04

SETTINGS

The learning resources which are locations used for learning, instruction, and the direct support of instruction. The emphasis in this handbook is upon the on-campus areas where these activities take place although there is flexibility enough in the classification structure to include off-campus settings. "Classification of Terms About Settings" on p. 26 has a detailed explanation of the major divisions and subdivisions of the classification structure along with suggested sources of more terms and definitions and background information.

For user convenience, an overview of the terms and categories of settings is found in the chart on p. 109.

02. 04 01

Instructional Areas

The area or systems of areas designed, designated, and/or utilized for organized learning activities. Such an area may include devices, materials, or configurations of space to facilitate specialized kinds of instruction. (III-M)

02. 04 01 01

Instructional Space

The space designed, or adapted, to accommodate regularly scheduled or planned instruction. These spaces include regular instructional spaces such as classrooms and special spaces such as laboratories and shops. Storage and some service spaces opening into and serving as adjuncts to a particular instructional space may be considered a part of that space *unless* those areas are otherwise listed as an **Instructional-Support Area** (02.0402). (III-M)

02. 04 01 01 01

Regular Instructional Space

The space designed, or adapted, in such a manner that it can be used to house any class which does not require special built-in devices or materials tailored to the specific needs of the class. The spaces may be self-contained (having fixed walls and ancillary equipment and materials for instruction); flexible (having movable walls and variable-instructional space); mobile (transportable from place to place); or open (having no internal walls, dividers, or partitions). The spaces may accommodate very large groups or small groups such as seminars. (Also called classrooms as a generic term.) (VI-M)

02. 04 01 01 02

Special Instructional Space

The instructional space designed, or provided with special built-in equipment, for specialized learning activities, e.g., kindergarten room, science laboratory, and shop. (VI-M)

02. 04 01 01 02 01

Business Education Room

A space equipped with materials and equipment (such as typewriters, calculators, and business machines) for learning activities in the field of *Business* (02.050103). May also include equipment and materials used

Overview of Terms
SETTINGS
Code Series 02.04

02. 04 01 Instructional Areas		02. 04 02 Instructional-Support Areas	
02. 04 01 01 Instructional Space	02. 04 01 01 01 Regular Instructional Space	02. 04 01 02 Learning Resources Space	
		02. 04 01 03 General-Use Space	
02. 04 01 02 Special Instructional Space	02. 04 01 02 01 Business Education Room	02. 04 01 04 Special-Use Space	
		02. 04 01 05 Other Special-Use Spaces	
02. 04 01 03 Computer Laboratory	02. 04 01 03 01 General Learning Resources Space	02. 04 01 06 Demonstration Space	
		02. 04 01 07 Field-Test Station	
02. 04 01 04 Home Economics Room	02. 04 01 04 01 Special Learning Resources Space	02. 04 01 08 Cafetorium	
		02. 04 01 09 Gymnasium	
02. 04 01 05 Kindergarten Room	02. 04 01 05 01 Mediamobile	02. 04 01 10 Museum	
		02. 04 01 11 Planetary Room	
02. 04 01 06 Mathematics Laboratory	02. 04 01 06 01 Open Stack Reading Room	02. 04 01 12 Other Special-Use Space	
		02. 04 01 13 Satellite Center	
02. 04 01 07 Media-Based Instructional Laboratory	02. 04 01 07 01 Other Special Learning Resources Space	02. 04 02 01 Audio Control Room	
		02. 04 02 02 Computer Center	
02. 04 01 08 Music Room	02. 04 01 08 01 Satellite Center	02. 04 02 03 Curriculum Laboratory	
		02. 04 02 04 Darkroom	
02. 04 01 09 Science Laboratory	02. 04 01 09 01 Other Special Learning Resources Space	02. 04 02 05 Equipment Area	
		02. 04 02 06 Graphic-Production Room	
02. 04 01 10 Shop Room	02. 04 01 10 01 Other Special Learning Resources Space	02. 04 02 07 Maintenance and Repair Shop	
		02. 04 02 08 Mobile Studio	
02. 04 01 11 Special Instructional Space for Exceptional Children	02. 04 01 11 01 Other Special Instructional Spaces	02. 04 02 09 Motion Picture Studio	
		02. 04 02 10 Photographic Studio	
02. 04 01 12 Other Special Instructional Spaces	02. 04 01 12 01 Other Special Instructional Spaces	02. 04 02 11 Print Shop	
		02. 04 02 12 Projection Room	
02. 04 01 13 Other Special Instructional Spaces	02. 04 01 13 01 Other Special Instructional Spaces	02. 04 02 13 Radio Studio	
		02. 04 02 14 Remote Location	
02. 04 01 14 Other Special Instructional Spaces	02. 04 01 14 01 Other Special Instructional Spaces	02. 04 02 15 Sound Studio	
		02. 04 02 16 Television Control Room	
02. 04 01 15 Other Special Instructional Spaces	02. 04 01 15 01 Other Special Instructional Spaces	02. 04 02 17 Television Studio	
		02. 04 02 18 Other Instructional-Support Areas	

02. 04 **SETTINGS—Continued**02. 04 01 **Instructional Areas—Continued**02. 04 01 01 *Instructional Space—Continued*02. 04 01 01 02 **Special Instructional Space—Continued**02. 04 01 01 02 01 Business Education Room—Continued

in Distributive Education (02.050104). (Also called Typing Room, Secretarial Training Room.)

02. 04 01 01 02 02 Computer Laboratory

A space equipped with the materials and equipment (such as keypunches and computer peripheral equipment) for learning activities primarily in computer sciences but also for other computer-related learning activities.

02. 04 01 01 02 03 Home Economics Room

A special instructional space designed, or provided with special built-in equipment, for learning activities involving the varied aspects of food, clothing, and shelter, with particular emphasis on consumer education; management of money, time, energy, and human resources; and human relationships focused on child growth and development, family relationships, and family health. (VI)

02. 04 01 01 02 04 Kindergarten Room

A special instructional space, designed, or provided with special built-in equipment, for use by a group or class that is organized to provide educational experiences for children for the year or years preceding the first grade. (VI)

02. 04 01 01 02 05 Mathematics Laboratory

An instructional space equipped with special materials and equipment (such as calculators, models) for learning activities in the field of mathematics.

02. 04 01 01 02 06 Media-Based Instructional Laboratory

An instructional space equipped with the materials and equipment for learning activities dependent upon instructional media. The space is not a general resource area but is used for specific coursework and instruction in a mediated format. (See Mediated Instruction.)

02. 04 01 01 02 07 Music Room

A special instructional space designed, or provided with special built-in equipment, for learning activities involving choral and instrumental music. (VI-M)

02. 04 01 01 02 08 Science Laboratory

A special instructional space designed, or provided with special built-in

equipment, for learning activities involving student experimentation, observation, or participation in the sciences. (VI-M)

02. 04 01 01 02 09

Shop Room

A special instructional space designed, or provided with special built-in equipment, for developing manipulative and related skills. The type of shop room should be specified. (VI-M)

02. 04 01 01 02 10

Special Instructional Space for Exceptional Children

A special instructional space designed, or provided with special built-in equipment, specifically for accommodating classes organized for the particular purpose of providing instruction to students with particular physical or mental differences. (VI-M)

02. 04 01 01 02 99

Other Special Instructional Space

Any special instructional spaces not listed and defined above.

02. 04 01 01 99

Other Instructional Space

Any instructional space not listed and defined above.

02. 04 01 02

Learning Resources Space

A space designed, adapted, and/or designated primarily for activities related to the development and supply of learning resources (particularly materials and devices) but which is *also* used as the setting for learning activities. The prime determinant of classification (between instructional spaces and learning resource spaces) is whether or not the learning resources related activities could continue if there were no instruction in the same space. If the learning resources activities could continue without the instructional activities, the space should be classified as a learning resources space.

02. 04 01 02 01

General Learning Resources Space

A space provided for an organized collection of print and nonprint materials and related devices as well as space for a staff trained to provide them and to facilitate their use to meet the learning needs of the students. This may include space for the production of some learning materials. While the physical space is identified here, some specific terms related to the space (such as library or media center) also connote a functional or administrative unit. (Includes or may be called Educational Media Center, Library, Instructional Materials Center, Learning Resources Center and variants of these terms.) (See also Library, Media Center.)

02. 04 01 02 02

Special Learning Resources Space

A space devoted to special collections of print and nonprint materials and related devices. The space and collection may be oriented toward specific content (e.g., an art library), toward specific materials (e.g., a film library) or toward other

02. 04

SETTINGS—Continued

02. 04 01

Instructional Areas—Continued

02. 04 01 02

Learning Resources Space—Continued

02. 04 01 02 02

Special Learning Resources Space—Continued

specific elements in instruction (e.g., learner characteristics—the visually handicapped, the second grade) or geographic areas, (e.g., regional media centers).

02. 04 01 02 02 01

Mediamobile

A truck or van specially designed and operated to distribute print and nonprint materials; serves both as a delivery unit and a Satellite Center (02.0401020203). (Also called Bookmobile.)

02. 04 01 02 02 02

Open Stack Reading Room

A room that is a combination of a reading room and a stack, generally without physical boundaries between the stack and reading areas.

02. 04 01 02 02 03

Satellite Center

A branch unit separate from the central learning resources space, having services, media, and equipment locally available for easy accessibility. Does not include Mediamobile (see item 02.0401020201.) (Also called Branch Library, Branch Media Center, and variants.)

02. 04 01 02 02 99

Other Special Learning Resources Space

Any special learning resource spaces not listed and defined above.

02. 04 01 02 99

Other Learning Resources Space

Any learning resources space not listed and defined above.

02. 04 01 03

General-Use Space

A space designed and/or adapted for a number of purposes, one of which is instructional. Such a space is used for regular instructional purposes (see Regular Instructional Spaces (02.04010101)) and does not require special built-in devices. This classification does *not* include those terms included under *Instructional Space* (02.040101).

02. 04 01 03 01

Auditorium

A space designed and constructed with a built-in stage and sloping floor or fixed seating, for use as an assembly center. (VI-M)

02. 04 01 03 02

Cafetorium

A space designed, or adapted, specifically for the combined functions that

might normally be served by a separate cafeteria and a separate auditorium. (VI)

02. 04 01 03 03

Gymnatorium

A space designed, or adapted, specifically for the combined functions that might normally be served by a separate gymnasium and a separate auditorium. (VI)

02. 04 01 03 04

Multipurpose Room

A space designed, or adapted, specifically for two or more of the combined functions that might normally be served by a number of separate instructional spaces. (VI-M)

02. 04 01 03 99

Other General-Use Space

Any general-use space not listed and defined above.

02. 04 01 04

Special-Use Space

A space used for instruction but also used for other activities which are not directly related to instruction nor to *Learning Resources Space* (02.040102). These other activities are usually directly linked to a specific subject-matter area as in the case of a planetarium and may be open to the general public.

02. 04 01 04 01

Demonstration Space

A designated space used to practice the principles of certain disciplines such as teaching and home economics. This category includes demonstration schools, laboratory schools, preschool nurseries, etc., if it supports the training of college-level students as teachers. This category includes home-management houses that serve to train college-level students in home economics.

02. 04 01 04 02

Field-Test Station

A designated structure or space specially equipped for field experiments. It is usually located outside a central campus area. The space may contain spaces for specialized research and for instruction.

02. 04 01 04 03

Gallery

Physical facilities provided for the collection, preservation, and exhibition of art objects.

02. 04 01 04 04

Gymnasium

An indoor space designed, or adapted, specifically for most physical education activities. Regular or special classrooms used in connection with the gymnasium are recorded individually as regular or special classrooms and not as part of the gymnasium. Swimming pools are classified as part of the gymnasium. (VI-M)

02. 04 **SETTINGS—Continued**02. 04 01 **Instructional Areas—Continued**02. 04 01 04 **Special-Use Space—Continued**02. 04 01 04 05 **Museum**

A physical space provided for the collection, preservation, and exhibition of artifacts and historical materials, as well as scientific and cultural displays.

02. 04 01 04 06 **Planetarium**

A space designed, adapted and/or designated for the projection of various celestial and/or terrestrial images and effects of a particular time and place on the walls and/or ceiling of the space.

02. 04 01 04 99 **Other Special-Use Spaces**

Any special-use spaces not listed and defined above.

02. 04 01 99 **Other Instructional Areas**

Any instructional areas not listed and defined above.

02. 04 02 **Instructional-Support Areas**

The areas and spaces designed and/or designated to accommodate services involved in the development or support of instruction. If an area or space identified and classified here is used primarily to train students (e.g., a darkroom for photography classes) it should be classified as a Special Classroom Space (02.04010102).

02. 04 02 01 **Audio-Control Room**

An area usually located adjacent to or as part of a sound or radio studio, with glass panels installed to permit visual contact between the two areas. It usually contains an audio console, audiotape recorders, and other accessories.

02. 04 02 02 **Computer Center**

An area which houses a computer with spaces for the computer itself as well as peripheral devices and tape drives. The area may also include space for staff and storage of computer-related materials.

02. 04 02 03 **Curriculum Laboratory**

An instructional-support area where special assistance is provided to members of the instructional staff in planning and preparing for instruction. Among materials usually available are representative textbooks, curriculum guides, tests, and selected audiovisual equipment and supplies. (May also be called Teaching Skills Center.) (VI-M)

02. 04 02 04

Darkroom

An area specially equipped for the printing and processing of photographic films and papers. It is lightproof and has special safety lights and ventilation.

02. 04 02 05

Equipment Room

An area for the storage and distribution of instructional equipment. It provides facilities and staff to coordinate selection and evaluation of instructional equipment and organize and distribute instructional equipment. (See also *Maintenance and Repair Shop* (02.040207).)

02. 04 02 06

Graphic-Production Area

An instructional-support area specially designated and equipped for the production of graphic materials. It does *not* include *Photographic Studio* (02.040210), or *Print Shop* (02.040207).)

02. 04 02 07

Maintenance and Repair Shop

An area designed, adapted, and/or designated for the repair and maintenance of instructional materials and devices, particularly electronic equipment. It may be adjacent to major electronic installations such as an electronic learning laboratory or a television studio.

02. 04 02 08

Mobile Studio

A van or truck specially designed and equipped to carry motion picture, radio, or television equipment and to either record events away from the studio and/or to transmit a radio or television signal of the events back to the central studio for broadcast. The unit may contain a generator or cables for obtaining power from the location. (Also called *Mobile Unit*, *Mobile Van*, *Remote Unit*, and variants.)

02. 04 02 09

Motion Picture Studio

An area specially designed and/or designated and equipped for the production of motion pictures. It includes spaces for production as well as for technical areas and equipment.

02. 04 02 10

Photographic Studio

An area specially designed and/or designated and equipped for photography and photographic copying.

02. 04 02 11

Print Shop

An area specially designated and equipped with presses for offset and/or letterpress operations. The area may also have space for copying. Does *not* include space for general graphic work. (See *Graphic-Production Area* (02.040206).)

02. 04 02 12

Projection Room

An area adjacent to and interfacing with a viewing area and which has the equipment necessary for projecting materials on a screen in the viewing area.

02. 04

SETTINGS—Continued

02. 04 02

Instructional-Support Areas—Continued

02. 04 02 13

Radio Studio

An area specially designed and/or designated and equipped for radio broadcasting. It includes microphones and other specialized equipment, plus a control booth. The size ranges from a network studio which can also hold an audience to small installations with a single microphone and transmitter.

02. 04 02 14

Remote Location

A nonstudio area used as a setting for the production of audio, television, or photographic materials.

02. 04 02 15

Sound Studio

An area specially designed or adapted and equipped to record sound. The studio usually includes an acoustically treated area with microphones for the performers and a separate soundproof area (see *Audio-Control Room* (02.040201)) for recording equipment and personnel. (Also called Recording Studio.)

02. 04 02 16

Television Control Room

A special area, usually soundproofed and isolated from the stage or area where the action is taking place. The Control room usually houses a television console, a film chain, control equipment, and the personnel for the direction and videorecording of the program.

02. 04 02 17

Television Studio

An area specially designed and/or adapted and equipped for the production of television programs. A typical studio contains spaces for talent to perform; movable cameras and sound equipment; lighting (usually overhead); and special rooms for television consoles, recording equipment, and nonperforming personnel (see *Television Control Room* (02.040216)); plus storage space. The size of a studio varies from a network studio with space for a large audience to small installations with a single camera and talent.

02. 04 02 99

Other Instructional-Support Areas

Any instructional-support areas not listed and defined above.

02. 04 99

Other Settings

Any settings not listed and defined above.

DEFINITIONS OF CLASSIFIED TERMS ABOUT CONTENT

Code Series 02.05

02. 05

CONTENT

The learning resource which includes any subject matter—information, attitudes, or skills—to be learned and taught. In this handbook, content emphasizes those subject-matter areas represented in a majority of instructional programs across the country. Only the major subdivisions (the first two levels of detail) are listed and defined here. For more information about the classification structure of content as well as sources of more detailed subject matter (both terms and definitions), see "Classification of Terms about Content" on p. 29.

For user convenience, an overview of terms and categories of content is found on the chart on p. 118.

02. 05 01

Subject-Matter Areas for Elementary, Secondary, and Associate-Level Education

A listing of the basic content offerings represented in a majority of elementary, secondary, and 2-year postsecondary programs.

02. 05 01 01

Agriculture

The group of related courses or units of subject matter which are organized for carrying on learning experiences concerned with preparation for or upgrading in occupations requiring knowledge and skills in agricultural subjects. The functions of agricultural production, agricultural supplies, agricultural mechanization, agricultural products (processing), ornamental horticulture, forestry, agricultural resources, and the services related thereto, are emphasized in the instruction designed to provide opportunities for pupils to prepare for or improve their competencies in agricultural occupations. An agricultural occupation may include one or any combination of these functions. (VI)

02. 05 01 02

Art

The organized body of subject matter or related courses involving primarily visual, tactile, and kinesthetic expression. Included in instruction are the two-dimensional forms such as sculpture or pottery; other spatial concepts such as architecture and design for the performing arts; and the history and theory of art. Emphasis is placed upon the esthetic and creative factors of visual forms. (VI)

02. 05 01 03

Business

The body of related subject matter, or related courses, and planned learning experiences which are designed to develop in pupils the attitudes, knowledge, skills, and understanding concerned with business principles and practices having applications for personal use and/or activities in the business world. Business also includes a wide variety of aspects of general education, e.g., subject matter from other subject areas such as English (language arts), social sciences/social studies, and mathematics. (VI)

Overview of Terms

CONTENT

Code Series 02.05

02. 05 01 Subject-Matter Areas for Elementary, Secondary, and Associate-Level Education	02. 05 02 Subject-Matter Areas for Higher Education	02. 05 99 Other Con- tent
02. 05 01 01 Agriculture 02. 05 01 02 Art 02. 05 01 03 Business 02. 05 01 04 Distributive Education 02. 05 01 05 English Language Arts 02. 05 01 06 Foreign Languages 02. 05 01 07 Health Occupations Education 02. 05 01 08 Health and Safety in Daily Living, Physical Education, and Recreation 02. 05 01 09 Home Economics 02. 05 01 10 Industrial Arts 02. 05 01 11 Mathematics 02. 05 01 12 Music 02. 05 01 13 Natural Sciences 02. 05 01 14 Office Occupations 02. 05 01 15 Social Science/Social Studies 02. 05 01 16 Technical Education 02. 05 01 17 Trade and Industrial Occupations 02. 05 01 18 General Elementary Education and General Secondary Education 02. 05 01 19 Differentiated Curriculum for Handicapped Students 02. 05 01 20 Cocurricular Activities 02. 05 01 21 Safety and Driver Education 02. 05 01 22 Junior ROTC	02. 05 02 01 Agriculture and Natural Resources 02. 05 02 02 Architecture and Environmental Design 02. 05 02 03 Area Studies 02. 05 02 04 Biological Sciences 02. 05 02 05 Business and Management 02. 05 02 06 Communications 02. 05 02 07 Computer and Information Sciences 02. 05 02 08 Education 02. 05 02 09 Engineering 02. 05 02 10 Fine and Applied Arts 02. 05 02 11 Foreign Languages 02. 05 02 12 Health Professions 02. 05 02 13 Home Economics 02. 05 02 14 Law 02. 05 02 15 Letters 02. 05 02 16 Library Science 02. 05 02 17 Mathematics 02. 05 02 18 Military Sciences 02. 05 02 19 Physical Sciences 02. 05 02 20 Psychology 02. 05 02 21 Public Affairs and Services 02. 05 02 22 Social Sciences 02. 05 02 23 Theology 02. 05 02 24 Interdisciplinary Studies	

02. 05

CONTENT—Continued

02. 05 01

Subject-Matter Areas for Elementary, Secondary, and Associate-Level Education—Con.

02. 05 01 04

Distributive Education

The various combinations of subject matter and learning experiences related to the performance of activities that direct the flow of goods and services, including their appropriate utilization, from the producer to the consumer or user. These activities include selling and such sales-supporting functions as buying, transporting, storing, promoting, financing, marketing research and management. Distributive education is comprised of programs of occupational instruction in the field of distribution and marketing. These programs are designed to prepare individuals to enter, or progress or improve competencies in, distributive occupations. Emphasis is on the development of attitudes, skills, and understanding related to marketing, merchandising, and management. Instruction is offered at the secondary, postsecondary, and adult education levels and is structured to meet the requirements for gainful employment and entrepreneurship at specified occupational levels. Distributive occupations are found in such areas of economic activity as retail and wholesale trade, finance, insurance, real estate, services and service trades, manufacturing, transportation, utilities, and communications. (VI)

02. 05 01 05

English Language Arts

The body of related subject matter, or the body of related courses, organized for carrying on learning experiences concerned with developing (1) an understanding of the language system; (2) proficiency and control in the use of the English language; (3) appreciation of a variety of literary forms; (4) understanding and appreciation of various aspects of past and present cultures as expressed in literature; and (5) interests which will motivate lifelong learning. (VI)

02. 05 01 06

Foreign Languages

The body of subject matter comprised of a variety of foreign languages, including English as a foreign language. Classified under this heading are the various classical and modern foreign languages. Usually, the activities involved in the teaching and learning of a foreign language are planned in terms of selected objectives: (1) to assist the learner in acquiring progressive proficiency in the control of the skills of listening comprehension, speaking, reading, and writing, and in structural analysis; (2) to develop the learner's capacity to apply these acquired skills in understanding, analyzing, and interpreting a variety of forms of past and current thought; (3) to increase the learner's knowledge and understanding of the countries, cultures, and attitudes of the peoples whose language is being learned. (VI)

02. 05 01 07

Health Occupations Education

The body of related subject matter, or the body of related courses, and planned experiences designed to impart knowledge and develop understanding and skills required to support the health professions. Instruction is organized to prepare learners for occupational objectives concerned with assisting qualified personnel in providing diagnostic, therapeutic, preventive, restorative, and rehabilitative services to people, including understanding and skills essential to provide care and health services to patients. (VI)

02. 05 **CONTENT—Continued**02. 05 01 **Subject-Matter Areas for Elementary, Secondary, and Associate-Level Education—Con.**02. 05 01 08 ***Health and Safety in Daily Living, Physical Education, and Recreation***

The body of related subject matter and activities concerned with developing (1) knowledge, attitudes, appreciations, and conduct essential to individual and group health; (2) awareness of, concern for, and knowledge, skills, and judgment necessary for practicing and promoting personal and public safety in the home, at school, on the job and in traffic; and (3) physical and mental growth and fitness by means of activities designed to improve the muscles, motor skills, and attitudes and habits of conduct of individuals and groups. (VI)

02. 05 01 09 ***Home Economics***

The group of related courses or units of instruction organized for purposes of enabling learners to acquire knowledge and develop understanding, attitudes, and skills relevant to (a) personal, home, and family life and (b) occupational preparation using the knowledge and skills of home economics. The subject matter of home economics includes, in addition to that which is unique to the area, concepts drawn from the natural and social sciences and the humanities. (VI)

02. 05 01 10 ***Industrial Arts***

The body of related subject matter, or related courses, organized for the development of understanding about the technical, consumer, occupational, recreational, organizational, managerial, social, historical, and cultural aspects of industry and technology. Learning experiences involve activities such as experimenting, designing, constructing, evaluating, and using tools, machines, materials, and processes which provide opportunities for creativity and problem solving. (VI)

02. 05 01 11 ***Mathematics***

The body of related subject matter, or the body of related courses, organized for carrying on learning experiences concerned with the science of relations existing between quantities (magnitude) and operations and the science of methods used for deducing from other quantities, known or supposed, the quantities sought. (VI)

02. 05 01 12 ***Music***

The subject matter and activities designed to impart the skills and knowledge necessary for the understanding, appreciation, creation, performance, and enjoyment of music. (VI)

02. 05 01 13 ***Natural Sciences***

The body of related subject matter, or the body of related courses, organized for carrying on learning experiences concerned with knowledge of the physical and biological world, and of the processes of discovering and validating this knowledge. (VI)

02. 05 01 14

Office Occupations

The body of subject matter or combinations of courses and practical experience organized into programs of instruction to provide opportunities for learners to prepare for and achieve career objectives in selected office occupations. In the instructional process various aspects of subject matter frequently are drawn from other subject-matter areas. Learning experiences are designed to lead to employment and/or advancement of individuals in occupations in public or private enterprises or organizations related to the facilitating function of the office. "Facilitating function," as used here, refers to the expediting role played by office occupations as the connecting link between the production and distribution activities of an organization. Included is a variety of activities, such as recording and retrieval of data, supervision and coordination of office activities, internal and external communication, and the reporting of information. (VI)

02. 05 01 15

Social Science/Social Studies

The interrelated subject matter organized to impart knowledge, develop skills, and identify goals concerning elements and institutions of human society in the disciplines of history, economics, political science, sociology, anthropology, psychology, geography, and philosophy. The social studies are comprised of those aspects of the above which in practice are selected for instructional purposes in schools and colleges. Social studies are usually socially oriented with regard to aims and subject matter concerning the elements and institutions of human society. Employing systematic, analytical, and theoretical methods, the social sciences include modes of inquiry such as historical or genetic approaches, survey, research, experimentation, content analysis, and logical analysis. Illustrative methods as techniques include: field studies, case studies, statistical analysis, map and photo interpretations, simulation, participant observation, polling, questionnaires, and others. (VI)

02. 05 01 16

Technical Education

The body of knowledge organized in a planned sequence of classroom and laboratory experiences, usually at the postsecondary level, to prepare learners for a cluster of job opportunities in a specialized field of technology. The program of instruction normally includes the study of the underlying sciences and supporting mathematics inherent in a technology, as well as methods, skills, materials, and processes commonly used and services performed in the technology. A planned sequence of study and extensive knowledge in a field of specialization is required in technical education, including competency in the basic communication skills and related general education. Technical education prepares for the occupational area between the skilled craftsman and the professional person such as the physician, the engineer, and the scientist. The technical education curriculum is so structured that it prepares the graduate to enter a job and be productive with a minimum of additional training after employment. It is designed to provide a background of knowledge and skills which will enable an individual to advance with the developments in the technology, and enables him, with a reasonable amount of experience and additional education, to advance into positions of increased responsibility. The technician frequently is employed in direct support of the professional employee. For example, the engineering technician will be capable of performing such duties as assisting in the following engineering functions: designing, developing, testing, modifying of products and processes, production, planning, writing reports, and preparing

02. 05

CONTENT—Continued

02. 05 01

Subject-Matter Areas for Elementary, Secondary and Associate-Level Education—Con.

02. 05 01 16

Technical Education—Continued

estimates; analyzing and diagnosing technical problems that involve independent decisions; and solving a wide range of technical problems by applying his background in the technical specialties - science, mathematics, and communicative and citizenship skills. (VI)

02. 05 01 17

Trade and Industrial Occupations

The branch of vocational education which is concerned with preparing persons for initial employment, or for upgrading or retraining workers in a wide range of trade and industrial occupations. Such occupations are skilled or semiskilled and are concerned with layout designing, producing, processing, assembling, testing, maintaining, servicing, or repairing any product or commodity. Instruction is provided (1) in basic manipulative skills, safety judgment, and related occupational information in mathematics, drafting, and science required to perform successfully in the occupation, and (2) through a combination of shop or laboratory work experiences simulating those found in industry and classroom learning. Included is instruction for apprentices in apprenticeship occupations or for journeymen already engaged in a trade or industrial occupation. Also included is training for service and certain semiprofessional occupations considered to be trade and industrial in nature. (VI)

02. 05 01 18

General Elementary Education and General Secondary Education

The instruction which takes place in a self-contained class. Learning experiences are concerned with the knowledges, skills, appreciations, attitudes, and behavioral characteristics considered to be needed by all pupils in terms of the broad educational outcomes which should be achieved by all pupils to the limits of their capacities during the elementary and secondary school years or grades. (VI)

02. 05 01 19

Differentiated Curriculum for Handicapped Students

The specialized instruction for individuals with handicaps. The differentiated curriculum for handicapped pupils reflects an increasing awareness today of the individual needs of children. Many children with various types of handicaps cannot benefit from basic subject matter without special education. Handicapped children present learning difficulties, sensory and motor impairments, which require careful study for successful adaptation of instruction. Teachers of exceptional children integrate professional information from psychology, education, and medicine for instructional therapeutic services. Consequently, special education as applied to each type of handicapped child has developed some distinctive techniques and materials which distinguish it from regular classroom instruction. All handicapped children should have appropriate educational opportunities. As the school shares the responsibility with other social institutions for educating all children, it may make a unique contribution in discovering handicaps and providing the needed services for supporting the type of instruction which will enable pupils to fulfill their maximum potential. The majority of pupils with mild or uncomplicated handicaps can be served best within normal classes for instruction. Those pupils whose handicaps are

of such nature and degree as to interfere with intellectual development and learning under regular class methods will require differentialized curriculum for some part of, and frequently, for all of their education. (VI-M)

02. 05 01 20

Cocurricular Activities

The group of school-sponsored activities, under the guidance or supervision of qualified adults, designed to provide opportunities for pupils to participate in such experiences on an individual basis, in small groups, or in large groups—at school events, public events, or a combination of these—for purposes such as motivation, enjoyment, and improvement of skills. In practice, participation usually is not required and credit usually is not given. When participation is required or credit is given, the activity generally is considered to be a course. (VI)

02. 05 01 21

Safety and Driver Education

The subject matter and related activities concerned with developing in the learner the ability to respond appropriately and efficiently in the operation of a motor vehicle, and as a pedestrian in traffic. More specifically, instruction emphasizes attainment of the following objectives: (1) appropriate knowledge and efficiency for living in the total traffic environment; (2) fundamental driving skill habits; (3) desirable behavior pattern in traffic; (4) an understanding of driver and pedestrian limitations, obligations, and responsibilities legally and socially; and (5) knowledge about the motor vehicle and understanding of how society may achieve maximum efficiency in operating its motor vehicle transportation system. Subject matter and activities in safety education are primarily concerned with enhancing personal characteristics and values involved in preventing accidents and saving lives. Instruction emphasizes, in addition to other factors, the following: (1) the development of appropriate attitudes towards safety, (2) knowledge concerning a wide range of safety factors, (3) habits and skills involved in safeguarding oneself and others, and (4) effective citizenship. (VI)

02. 05 01 22

Junior ROTC

The body of subject matter, or combinations of courses and practical experience, organized into programs of instruction to provide opportunities for pupils to prepare for and achieve career objectives in selected branches of the military service. In the instructional process, various aspects of subject matter frequently are drawn from other subject-matter areas. Instruction is concerned with developing (1) good citizenship, patriotism, self-reliance, leadership, and responsiveness to constituted authority; (2) knowledge of basic military skills and appreciation of the role of the military services in military defense; and (3) informed citizens, strength of character, and understanding of the responsibility of citizens in a democratic society. (VI)

02. 05 01 99

Other Subject-Matter Areas for Elementary, Secondary, and Associate-Level Education

Any other subject-matter areas for elementary, secondary, and 2-year post-secondary education not listed and defined above.

02. 05 02

Subject-Matter Areas for Higher Education

A listing of the basic content offerings represented in a majority of higher education programs.

02. 05

CONTENT—Continued

02. 05 02

Subject-Matter Areas for Higher Education—Continued

02. 05 02 01

Agriculture and Natural Resources

The body of subject matter, or the body of related courses, concerned with the production of food and the management of natural fiber, plant, forest, and wildlife resources.

02. 05 02 02

Architecture and Environmental Design

The body of subject matter, or the body of related courses, concerned with designing buildings, communities, parks, and other manmade aspects of the physiosocial environment.

02. 05 02 03

Area Studies

The body of subject matter, or the body of related courses, concerned with cultures indigenous to specific geographic regions.

02. 05 02 04

Biological Sciences

The body of subject matter, or the body of related courses, concerned with the science of life or living matter in all its forms and phenomena, especially with regard to the origin, growth, reproduction, and structure of life forms.

02. 05 02 05

Business and Management

The body of subject matter, or the body of related courses, concerned with the organization, operation, administration, and control of private and public organizations.

02. 05 02 06

Communications

The body of subject matter, or the body of related courses, concerned with the collection, preparation, and presentation of ideas and information intended for popular consumption through mass media.

02. 05 02 07

Computer and Information Sciences

The body of subject matter or the body of related courses, concerned with the design, development, and application of computer capabilities to data storage and manipulation and related computational procedures.

02. 05 02 08

Education

The body of subject matter, or the body of related courses, concerned with the administration and control of educational organizations and institutions and subjects related to instruction and services both within and outside of such formal organizations.

02. 05 02 09

Engineering

The body of subject matter, or the body of related courses, concerned with the practical application of basic scientific knowledge to the design, production, and operation of systems intended to facilitate man's control and use of his natural environment.

02. 05 02 10

Fine and Applied Arts

The body of subject matter, or the body of related courses, concerned with the creation and appreciation of the diverse modes of communicating ideas and emotions by means of stylized, visual, and nonvisual representations and symbols.

02. 05 02 11

Foreign Languages

The body of subject matter, and the body of related courses, concerned with the mastery of a language other than English or related to the study of a foreign culture through exploration of the literature of that culture as expressed in the vernacular language.

02. 05 02 12

Health Professions

The body of subject matter, or the body of related courses, concerned with the maintenance and restoration of physical and mental health.

02. 05 02 13

Home Economics

The body of subject matter, or the body of related courses, concerned with the theory and practice of family and home care including the science of foods, home decoration and management, and child care.

02. 05 02 14

Law

The body of subject matter, or the body of related courses, concerned with the legal customs, practices, and rules of society and States for the purpose of pursuing a career in jurisprudence.

02. 05 02 15

Letters

The body of subject matter, or the body of related courses, concerned with English language and literature and value systems related to ancient and modern cultures.

02. 05 02 16

Library Science

The body of subject matter, or the body of related courses, concerned with the professional skills required to organize collections of books and related materials, and the training necessary for providing services related to them.

02. 05 02 17

Mathematics

The body of subject matter, or the body of related courses, concerned with the

02. 05

CONTENT—Continued

02. 05 02

Subject-Matter Areas for Higher Education—Continued

02. 05 02 17

Mathematics—Continued

science of numbers and space configurations and their operations, measurement, relationships, and abstractions.

02. 05 02 18

Military Sciences

The body of subject matter, or the body of related courses, concerned with the techniques and skills unique to the pursuit of a professional career as a military officer.

02. 05 02 19

Physical Sciences

The body of subject matter, or the body of related courses, concerned with the basic nature of matter, energy, and associated phenomena.

02. 05 02 20

Psychology

The body of subject matter, or the body of related courses, concerned with behavioral and mental processes.

02. 05 02 21

Public Affairs and Services

The body of subject matter, or the body of related courses, concerned with the management and operation of governmental agencies.

02. 05 02 22

Social Sciences

The body of subject matter, or the body of related courses, concerned with the past and present activities, conduct, interactions, and organizations of humans.

02. 05 02 23

Theology

The body of subject matter, or the body of related courses, concerned with the preparation and training for a religious vocation.

02. 05 02 24

Interdisciplinary Studies

The body of subject matter, or related courses, concerned with more than one major discipline without primary concentration in any one area.

02. 05 02 99

Other Subject-Matter Areas for Higher Education

Any other subject-matter area for higher education not listed and defined above.

02. 05 99

Other Content

Any other content not listed and defined above.

DEFINITIONS OF CLASSIFIED TERMS ABOUT STAFF

Code Series 02.06

02. 06

STAFF

The learning resource which includes the primary staff assignments involved in the development, preparation, delivery, and evaluation of instruction—whether in-person instruction or instruction through media. The terms and definitions represent general groupings of activities and emphasize assignments rather than the education, experience, or job title of the staff member. For more information, see "Classifications of Terms about Staff" on p. 30. The material there has more detailed information about the classification structure and the sources whence the terms and definitions came as well as where other staff and activity information can be found in this handbook.

For user convenience, an overview of the terms and categories relating to staff assignments is found in the chart on p. 128.

02. 06 01

Official/Administrative Assignment

The grouping of activities required in the management, administration, or supervision of a unit, function, division, organization, or institution engaged in instruction and/or the direct support of instruction. (IVR-M) Policymakers are included in this classification. Professional/Specialist Assignments are *not* included unless the assignments include managerial activities.

02. 06 01 01

Board of Directors Assignment

An assignment as a member of a legally constituted body created and vested with responsibilities for the educational activities in a given organization, institution, or geographical area. Includes trustees, board of education members, corporation directors. (IVR-M)

02. 06 01 02

System Administrative Assignment

An assignment to manage or administer (at the executive level) an organization or instructional system or a major program encompassing the total organization or system. Includes chancellors, school superintendents and their deputies. (IVR-M)

02. 06 01 03

Unit Administrative Assignment

An assignment to manage or administer an operating unit which has a number of subunits, programs, or services within it. Includes school principals and academic deans.

02. 06 01 04

Supervision/Directing Assignment

An assignment to direct staff members and manage a function, a subunit, or a supporting service within an operating unit or facility. Includes chairmen of academic departments, directors of media centers, and curriculum supervisors who manage staff members. (IVR-M)

Overview of Terms

STAFF

Code Series 02.06

02. 06 01 Official/Adminis- trative Assignment	02. 06 02 Professional/Specialist Assignment	02. 06 03 Technical Assignment	02. 06 04 Office/Clerical Assignment	02. 06 05 Aide As- signment	02. 06 06 Crafts & Trades As- signment
02. 06 01 01 Board of Direc- tors Assignment	02. 06 02 01 Counseling Assignment	02. 06 03 01 Media Production Tech- nician Assignment			
02. 06 01 02 System Adminis- trative Assign- ment	02. 06 02 02 Research Assignment	02. 06 03 02 Media Technical Assignment			02. 06 99 Other Staff As- signments
02. 06 01 03 Unit Administra- tive Assignment	02. 06 02 03 Educational Develop- ment Assignment	02. 06 03 03 Media Maintenance Technical Assignment			
02. 06 01 04 Supervision/ Directing Assignment	02. 06 02 04 Curriculum Specialist Assignment	02. 06 03 04 Teaching Assistant Assignment			
02. 06 01 99 Other Official/ Administrative Assignments	02. 06 02 05 Media Production Assignment	02. 06 03 05 Computer Technical Assignment			
	02. 06 02 06 Evaluation Assignment	02. 06 03 99 Other Technical Assignments			
	02. 06 02 07 Media Management Assignment				
	02. 06 02 08 Teaching Assignment				
	02. 06 02 09 Educational Program Planning Assignment				
	02. 06 02 10 Educational Manage- ment Analyst Assignment				
	02. 06 02 11 Personnel Assignment				
	02. 06 02 12 Staff Development Assignment				
	02. 06 02 99 Other Professional/ Specialist Assignments				

02. 06 STAFF—Continued

02. 06 01 Official/Administrative Assignment—Continued

02. 06 01 99 Other Official/Administrative Staff Assignments

Any other official/administrative staff assignments not listed and defined above.

02. 06 02 Professional/Specialist Assignment

The grouping of complex instruction or instructional support activities whose successful completion requires a high degree of skill and range of competencies on the part of the staff member engaged in those activities. The skills needed for performance of these activities are usually (but not always) acquired through an extended period of postsecondary education culminating in at least a baccalaureate degree (or its equivalent obtained through special study and/or experience). (IVR-M) (Do *not* record Official/Administrative Assignments under this category even though they may be professional in nature.)

02. 06 02 01 Counseling Assignment

An assignment to perform the activities of assisting learners and assisting parents and instructors to assist learners in making personal plans and decisions in relation to education, career, and personal development. (IVR)

02. 06 02 02 Research Assignment

An assignment to perform the activities concerned with systematic study and investigation to develop a body of knowledge for decisionmaking to improve the instruction program. (IVR-M) (Also called Research and Development Assignment.)

02. 06 02 03 Educational Development Assignment

An assignment to design and implement units, courses, or systems of instruction, usually working with instructional staff members. Examples of staff members having this assignment are instructional developers and educational development officers. Educational development staff members are usually *not* specialists in a special subject-matter area other than education. Does not include staff development—see *Staff Development Assignment* (02.060212).

02. 06 02 04 Curriculum Specialist Assignment

An assignment to perform activities in a specific subject-matter area to provide information and guidance to other staff members to improve the curriculum in that subject-matter area. This assignment would include the curriculum consultant and curriculum supervisor. Curriculum Specialist Assignment differs from Educational Development Assignment in that a Curriculum Specialist Assignment relates only to a particular discipline (see *CONTENT* (02.05)). (IVR-M)

02. 06 02 05 Media Production Assignment

An assignment to perform the activities of designing and producing instructional media or units of mediated instruction.

02. 06 STAFF—Continued

02. 06 02 Professional/Specialist Assignment—Continued

02. 06 02 06 *Evaluation Assignment*

An assignment to determine the value or effect of instructional programs or learning resources by the appraisal of data and activities as they relate to specified goals or objectives. (IVR-M)

02. 06 02 07 *Media Management Assignment*

An assignment to manage and facilitate the use of a collection of instructional materials and devices to meet the varied needs of learners and staff members. Such management includes selecting, organizing, maintaining, storing, retrieving, and distributing materials in the collection. Includes professional-level Library and Audiovisual Assignments.

02. 06 02 08 *Teaching Assignment*

An assignment to instruct learners including responsibility for diagnosis, prescription, motivation, and evaluation of the learner within his instructional program.

02. 06 02 09 *Educational Program Planning Assignment*

An assignment to perform the activities concerned with identifying or selecting the overall educational goals, priorities, and objectives of the organization or institution and formulating management systems to achieve these goals, priorities, and objectives. (IVR-M)

02. 06 02 10 *Educational Management Analyst Assignment*

An assignment to examine, evaluate, and make recommendations in such areas as cost, systems, facilities, or other sectors of the instructional and instructional support program as they relate to the total operation of the organization or institution. Such analysts often specialize in a single management area such as budget, statistics, or information systems. (IVR-M)

02. 06 02 11 *Personnel Assignment*

An assignment to perform activities concerned with staff recruitment, selection, general orientation, and assignment; maintenance of staff records and development of personnel benefit plans. (IVR) Does not include *Staff Development Assignment* (02.060212).

02. 06 02 12 *Staff Development Assignment*

An assignment to offer guidance, supervision, and help in promoting and improving the personal and/or professional growth of an individual staff member through consultation, special preservice and inservice training programs. Does not include assignment to provide general orientation programs—see *Personnel Assignment*, 02.060211. Does not include educational or instructional development—see *Educational Development Assignments* (02.060203).

02. 06 02 99

Other Professional/Specialist Assignment

Any professional/specialist assignment not listed and defined above.

02. 06 03

Technical Assignment

A grouping of activities whose successful completion requires basic scientific or applied knowledge along with practical experience in a particular field. The skills needed for the performance of these activities can usually be acquired through 2 years of postsecondary education or its equivalent in experience.

02. 06 03 01

Media Production Technician Assignment

An assignment to perform the technical activities in the physical production of instructional media. Technical activities generally involve standard routines or procedures which the technician chooses and follows.

02. 06 03 02

Media Technical Assignment

An assignment to perform the technical activities in acquiring, organizing, storing, retrieving, and distributing materials and their related devices. (Audiovisual technician, library technical assistant, and library technician are some examples of specialized subcategories of the Media Technical Assignment.)

02. 06 03 03

Media Maintenance Technical Assignment

An assignment to perform the technical activities in maintaining and repairing the electronic, mechanical, and optical devices used in conjunction with instructional materials. (Electronic technician, television technician, and audio technician are some examples of specialized subcategories of the Media Maintenance Technical Assignment.)

02. 06 03 04

Teaching Assistant Assignment

An assignment to perform some of the technical day-to-day activities in teaching learners. The teaching assistant assignment does not include diagnostic or long-range evaluative decisions regarding learners. Staff members having this assignment may or may not be certificated but have completed at least 2 years of formal education preparatory for teaching or the equivalent in experience or training. (IVR-M)

02. 06 03 05

Computer Technical Assignment

An assignment to operate, control, and perform other technical activities related to a computer and its peripheral equipment.

02. 06 03 99

Other Technical Assignments

Any technical assignment not listed and defined above.

02. 06 04

Office/Clerical Assignment

A grouping of activities in preparing, transferring, transcribing, systematizing, or

02. 06

STAFF--Continued

02. 06 04

Office/Clerical Assignment--Continued

preserving communications, records, and transactions, regardless of the level of skills required (with the exception of Official/Administrative). (IVR-M)

02. 06 05

Aide Assignment

A grouping of activities, often manual, whose completion requires little or no special training other than basic knowledge. This category includes the activities performed by messengers, laborers, media and library aides, and teacher aides (but not teacher assistants). In some situations, aides may be volunteers with considerable experience and expertise. However, if the tasks which they perform are limited and require no special training, the assignments should be classified as aide assignments.

02. 06 06

Crafts and Trades Assignment

A grouping of activities whose successful completion requires a relatively high level of manual skills as well as judgment and a comprehensive knowledge of the processes involved in the work. The skills are usually acquired through an extensive period of training and/or practical experience. (IVR-M) Included in this category are such assignments as carpenter, plumber, mechanic, mason, and electrician.

02. 06 99

Other Staff Assignments

Any staff assignments not listed and defined above.

DEFINITIONS OF CLASSIFIED TERMS ABOUT LEARNING RESOURCES DEVELOPMENT FUNCTIONS

Code Series 03.00

The functions in the field of educational technology through which learning resources and units of instruction are developed and brought into contact with the learner. The six Learning Resources Development Functions are: research, design, production, evaluation, logistics, and utilization. Each plays a unique role in the development and use of learning resources and each complements the others.

For more information about the functions, see "Classification of Terms about Learning Resources Development Functions" on p. 32.

DEFINITIONS OF CLASSIFIED TERMS ABOUT RESEARCH

Code Series 03.01

03. 01

RESEARCH

The learning resources development function whose purpose is to build and expand a body of knowledge which can be used in activities in the other learning resources development functions and in instructional management functions.

Overview of Terms
RESEARCH
Code Series 03.01

03. 01 01 Subject of Research		03. 01 02 Process of Research		03. 01 03 Stages of Learning/ Instruction Research		03. 01 04 Methods of Research		03. 01 99 Other Research	
03. 01 01 01 Research on Learner		03. 01 02 01 Theory Construction		03. 01 03 01 Pure Research		03. 01 04 01 Historical Research			
03. 01 01 02 Research on Learning Resources		03. 01 02 02 Theory Testing		03. 01 03 02 Applied Research		03. 01 04 02 Descriptive Research			
03. 01 01 03 Research on Unit of Instruction		03. 01 02 03 Hypothesis Formulation		03. 01 03 01 Animal/Autonomic Learning Research		03. 01 04 03 Longitudinal Research			
03. 01 01 99 Other Subjects of Research		03. 01 02 04 Literature Review		03. 01 03 02 Stage Learning Principles		03. 01 04 04 Case and Field Research			
		03. 01 02 05 Research Sample Selection		03. 01 03 03 Human Learning Stage		03. 01 04 05 Correlational Research			
		03. 01 02 06 Research Design Selection		03. 01 03 04 Other Applied Research		03. 01 04 06 Causal-Comparative Research			
		03. 01 02 07 Research Resources Selection		03. 01 03 05 Other Pure Research		03. 01 04 07 Experimental Research			
		03. 01 02 08 Implementation Arrangements				03. 01 04 08 Action Research			
		03. 01 02 09 Experimental Treatment				03. 01 04 99 Other Methods of Research			
		03. 01 02 10 Data Analysis							
		03. 01 02 11 Conclusion Formation							
		03. 01 02 12 Research Reportage							
		03. 01 02 13 Other Theory Testing							

For an explanation of the resource function, its relationship to other elements of educational technology (especially the evaluation function) and the sources from which it was developed, see "Classification of Terms about Research" on p. 31 of this handbook.

For user convenience, an overview of the terms and categories of the research function is found in the chart on page 133.

03. 01 01

Subject of Research

The subject or focus of research on a particular element, category, or subcategory within educational technology.

03. 01 01 01

Research on Learner

Any research which has as its subject or focus the learner or some aspect of the learner. Includes research on any subcategories of the major classification, **LEARNER (01.00)**.

03. 01 01 02

Research on Learning Resources

Any research which has as its subject or focus a learning resource or learning resources, or some aspect of learning resources. Includes research on subcategories of the major classification, **LEARNING RESOURCES (02.00)**.

03. 01 01 03

Research on Unit of Instruction

The research in which a unit of instruction (e.g., a course, a lesson, a learning package) or aspect of unit of instruction is the focus or subject of the research.

03. 01 01 99

Other Subjects of Research

Any subjects of research not listed and defined above.

03. 01 02

Process of Research

The general procedures or activities followed in conducting most research. The process includes theory construction and theory testing.

03. 01 02 01

Theory Construction

The part of the research process in which the outcome is the synthesis of information in new ways.

03. 01 02 01 01

Problem Perception

The activity of identifying a discrepancy between expectations and reality.

03. 01 02 01 02

Problem Definition

The activity of analyzing the discrepancy and stating it in terms of a clear, measurable problem.

03. 01 02 01 03

Information Synthesis

The activity of creating new relationships between pieces of information to form a unique, unified whole.

03. 01 RESEARCH—Continued

03. 01 02 Process of Research—Continued

03. 01 02 01 Theory Construction—Continued

03. 01 02 01 99 Other Theory Construction

Any other theory construction not listed and defined above.

03. 01 02 02 Theory Testing

The part of the research process in which there is the formulation of empirically verifiable questions and the subsequent verification of the questions.

03. 01 02 02 01 Hypothesis Formulation

The activity of applying a theory to a specific problem stated in testable terms.

03. 01 02 02 02 Literature Review

The activity of locating, reading, and analyzing previous theory and research related to the problem and/or to the hypotheses.

03. 01 02 02 03 Research Sample Selection

The activity of selecting or developing a population or sample which will become the subjects of the research.

03. 01 02 02 04 Research Design Selection

The activity of developing, creating, or adapting a method for testing hypotheses based on criteria for maximizing variability under the control of the experimenter and minimizing the variability not under the control of the experimenter.

03. 01 02 02 05 Research Resources Selection

The activity of selection of research materials, devices, techniques, and staff necessary to obtain the data to test the hypotheses.

03. 01 02 02 06 Implementation Arrangements

The activity of establishing administrative procedures necessary to conduct the experiment.

03. 01 02 02 07 Experimental Treatment

The activity of administering treatments and instruments to subjects and collecting data related to the hypotheses as prescribed by the experimental procedure.

03. 01 **RESEARCH—Continued**03. 01 02 **Process of Research—Continued**03. 01 02 02 *Theory Testing—Continued*03. 01 02 02 08 **Data Analysis**

The activity of performing appropriate statistical treatments of data collected in the experiment as specified in the experimental procedure.

03. 01 02 02 09 **Conclusion Formation**

The activity of identifying support and nonsupport for the hypotheses, suggesting alternative hypotheses for data obtained, and suggesting implications of the results for future research.

03. 01 02 02 10 **Research Reportage**

The activity of summarizing and disseminating the research in an appropriate form.

03. 01 02 02 99 **Other Theory Testing**

Any other theory testing not listed and defined above.

03. 01 02 99 *Other Processes of Research*

Any other procedures of the research process not listed and defined above.

03. 01 03 **Stages of Learning/Instruction Research**

The steps or stages in research which range from research which deals with basic elements, concepts, or theories in the learning process to the application of the findings of such research to instruction.

03. 01 03 01 *Pure Research*

Any research without regard for the immediate applicability to practical situations.

03. 01 03 01 01 **Animal/Autonomic Learning Research Stage**

The research on the basic processes of learning either with animal subjects or with the autonomic nervous systems of humans with no regard for educational relevance. Does *not* include any conscious human learning.

03. 01 03 01 02 **Learning Principles Stage**

Research on the basic processes of conscious human learning but not tied to a particular content or subject matter, e.g., using nonsense syllables. Includes research on the general principles of human learning.

03. 01 03 01 03

Human Learning Stage

The research on the basic processes of conscious human learning with content matter and subjects (learners) which relate to the instructional programs of educational institutions. No attention is given to adapting the learning to instructional practices.

03. 01 03 01 99

Other Pure Research

Any other stages of pure research not listed and defined here.

03. 01 03 02

Applied Research

The research derived from fundamental or basic research and directed to demonstrating that the findings from basic research may be applied in new and presumably useful processes.

03. 01 03 02 01

Developmental Stage

The applied research with a few subjects at a time using short segments of instruction and *not* conducted in a regular instructional situation. This stage parallels the Evaluation function phase, *Developmental Testing* (03.040301).

03. 01 03 02 02

Prototype Stage

The applied research on a prototype instructional unit conducted on a limited scale approximating "typical" or "normal" situations.

03. 01 03 02 03

Adoption Stage

The research on the final development, advocacy, and adoption of an instructional program or product. (Sometimes called Dissemination Research, Field Research, Field Testing Research.)

03. 01 03 02 99

Other Applied Research

Any other stages of applied research not listed and defined here.

03. 01 03 99

Other Stages of Learning/Instruction Research

Any other stages of learning/instruction research not listed and defined above.

03. 01 04

Methods of Research

The approaches (including strategies) to research design based upon the purpose of the research. The nature of the problem plays a major role in determining suitable approaches.

03. 01 04 01

Historical Research

The research whose chief objectives is an accurate reconstruction of the past, often in relation to the tenability of an hypothesis.

03. 01

RESEARCH—Continued

03. 01 04

Methods of Research—Continued

03. 01 04 02

Descriptive Research

The research whose purpose is to describe systematically a situation or area of interest in an accurate and factual manner. Descriptive research is often of a survey type designed to ascertain norms for the establishment of baseline data or criteria.

03. 01 04 03

Longitudinal Research

The research whose purpose is to investigate patterns and sequences of growth and/or change as a function of time.

03. 01 04 04

Case and Field Research

The research whose purpose is to study intensively the background, current status, and environmental interactions of a given social unit: an individual, a group, an institution, an organization, or a community.

03. 01 04 05

Correlational Research

The research whose purpose is to investigate the extent to which variations in one factor correspond with variations in one or more other factors based on correlation coefficients.

03. 01 04 06

Causal-Comparative Research

The research whose purpose is the investigation of possible cause-and-effect relationships by observing some existing consequence and searching back through the data for plausible causal factors.

03. 01 04 07

Experimental Research

The research whose purpose is to investigate possible cause-and-effect relationships by exposing one or more experimental groups to one or more treatment conditions and comparing the results to one or more control groups not receiving the treatment (random assignment of subjects to group being essential). Does *not* include quasi-experimental research—which is generally considered evaluation instead of research.

03. 01 04 08

Action Research

An on-the-job type of research used to develop new skills or new approaches and to solve problems with direct application to the classroom or other applied setting. (Do *not* record Evaluation in this category. Review the differences between Research and Evaluation, p. 42, if needed.)

03. 01 04 99

Other Methods of Research

Any methods of research not listed and defined here.

03. 01 99

Other Research

Any research not listed and defined here.

DEFINITIONS OF CLASSIFIED TERMS ABOUT DESIGN**Code Series 03.02**

03. 02

DESIGN

The learning resources development function whose purpose is the development and statement of specifications for learning resources and units of instruction and for other elements of educational technology. (The design of total programs is covered in **ORGANIZATION MANAGEMENT** (04.01).) In this handbook, design of learning resources, particularly materials and techniques, is emphasized.

For more information about the design function, see the "Classification of Terms about Design" on p. 35.

For user convenience, an overview of the terms and categories of the design function is found in the chart on p. 140.

03. 02 01

Needs Assessment

The identification of the learner, educator, and community analyses of the nature of the educational problems they perceive and the synthesis of these views into a problem statement.

03. 02 02

Instructional Goal Identification

The determination of broad expectations for a particular instructional situation based on an assessment of existing needs.

03. 02 03

Learner Analysis

The identification of the intended audience for an instructional product and of the significant traits, aptitudes, and proficiencies of these learners. Includes consideration of factors such as the learner's subject-matter competencies, background experiences, instructional preferences, maturity level, and communications skills.

03. 02 04

Learning Task Analysis

An identification of the main skills to be acquired by the learner and the breakdown of these skills into their basic components. It indicates the performance and knowledge requirements for a particular skill.

03. 02 05

Setting Analysis

The identification of those environmental factors relevant to the design of instructional products.

03. 02 06

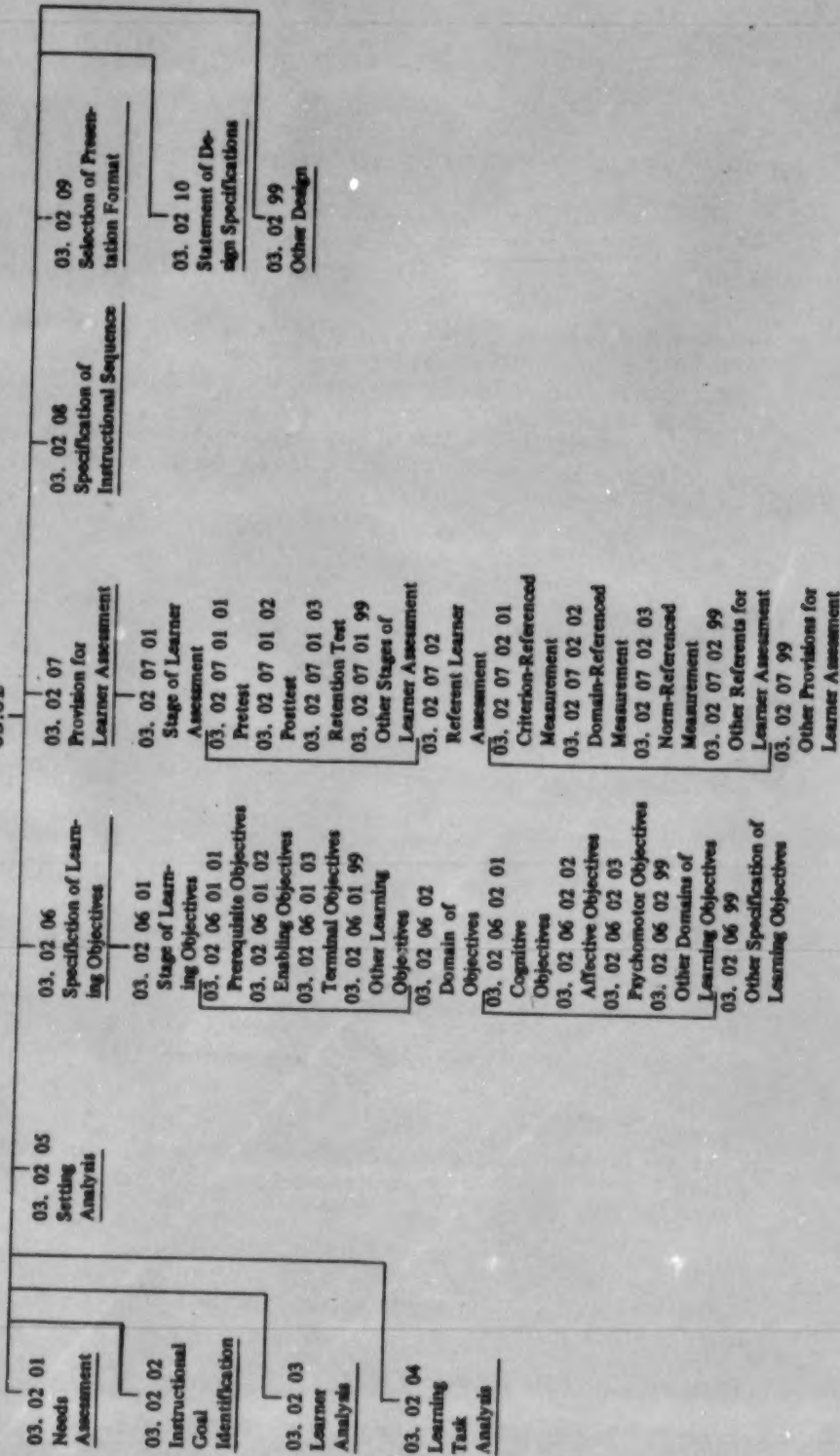
Specification of Learning Objectives

The formulation of precise statements indicating the performance expected of the learner in terms of specific skills and concepts as a result of exposure to the

Overview of Terms

DESIGN

03.02



03. 02

DESIGN—Continued

03. 02 06

Specification of Learning Objectives—Continued

instructional material. The objectives may include components which indicate what the learner should be able to do, under what conditions, and at what level of competence. Objectives are usually categorized according to their stage and/or domain. (See Performance Objective.)

03. 02 06 01

Stage of Learning Objectives

An indication of the stage of the objective in the instructional sequence.

03. 02 06 01 01

Prerequisite Objectives

The statements specifying the prior skills and concepts necessary for undertaking a particular learning task. (Also called Entry Level Objective or Entering Behavior.)

03. 02 06 01 02

Enabling Objectives

The statements specifying the intermediate objectives necessary for achieving the terminal objective. (Also called Interim Objective.)

03. 02 06 01 03

Terminal Objectives

The statements specifying the skills and concepts the learner is expected to have acquired as a result of exposure to a particular instructional product. (Also called Exit Level Objectives or Terminal Behavior.)

03. 02 06 01 99

Other Learning Objectives

Any learning objectives not listed and defined above.

03. 02 06 02

Domain of Objectives

An indication of the type of learner performance specified in the objective. (The domains follow those in *Taxonomy of Educational Objectives*, B.W. Bloom, ed.)

03. 02 06 02 01

Cognitive Objectives

Those statements specifying the acquisition of particular knowledge or information.

03. 02 06 02 02

Affective Objectives

Those statements specifying the acquisition of particular attitudes, values, or feelings.

03. 02 06 02 03

Psychomotor Objectives

Those statements specifying the acquisition of particular muscular and motor skills.

03. 02

DESIGN—Continued

03. 02 06

Specification of Learning Objectives—Continued

03. 02 06 02

Domain of Objectives—Continued

03. 02 06 02 99

Other Domains of Learning Objectives

Any domain of learning objectives not listed and defined above.

03. 02 06 99

Other Specification of Learning Objectives

Any specification of learning objectives not listed and defined above.

03. 02 07

Provision for Learner Assessment

The formulation of components which test the learner's mastery of the skills and concepts specified in the objectives. Includes decisions regarding the form and frequency of such components.

03. 02 07 01

Stage of Learner Assessment

An indication of the stage or step in the sequence of learner assessment.

03. 02 07 01 01

Pretest

The assessment done prior to instruction which determines the level of knowledge, skill and/or aptitude that a learner brings to instruction.

03. 02 07 01 02

Posttest

The assessment done at the conclusion of instruction which determines the extent to which learner has achieved the specified objectives.

03. 02 07 01 03

Retention Test

The assessment done some time after instruction which determines what knowledge and skills a student has retained from exposure to an instructional product.

03. 02 07 01 99

Other Stages of Learner Assessment

Any stage of learner assessment not listed and defined above.

03. 02 07 02

Referent for Learner Assessment

An indication of the frame of reference for the assessment of student performance.

03. 02 07 02 01

Criterion-Referenced Measurement

The assessment of student performance in terms of standards of achievement specified in behavioral terms.

03. 02 07 02 02

Domain-Referenced Measurement

The assessment of student performance in a given area in terms of a specific learning domain (cognitive, affective, or psychomotor).

03. 02 07 02 03

Norm-Referenced Measurement

The assessment of learner performance in a given area in relation to that of some norm or reference group.

03. 02 07 02 99

Other Referents for Learner Assessment

Any referents for learner assessment not listed and defined above.

03. 02 07 99

Other Provisions for Learner Assessment

Any provisions for learner assessment not listed and defined above.

03. 02 08

Specification of Instructional Sequence

Determination of the particular order in which skills and concepts will be presented in the instructional product. Decisions regarding sequencing are based on the previous analyses of the learner, task, and content.

03. 02 09

Selection of Presentation Format

A determination of the particular format the instructional products will take (e.g., kit, sound filmstrip, videotape, etc.). This step also includes decisions regarding the nature and format of any accompanying directions, supplemental exercises, etc. Such selection is based on factors such as the suitability of the format to particular instructional objectives and cost considerations.

03. 02 10

Statement of Design Specifications

A statement of the nature and intent of a proposed instructional material and a listing of the requirements for its production. The specifications integrate the previous specifications, provisions, and analyses. The detailed nature of the specifications ensures that the instructional product can be replicated.

03. 02 99

Other Design

Any design activities not listed and defined above.

DEFINITIONS OF CLASSIFIED TERMS ABOUT PRODUCTION**Code Series 03.03**

03. 03

PRODUCTION

The learning resources development function whose purpose is translating design specifications into learning resources or units of instruction. This section can relate to all

learning resources but is most commonly applied to the production of materials—the emphasis in this handbook. Production may be done by the institution or organization itself or by outside producers.

For more information about the structure of the production function, see "Classification of Terms about Production" on p. 37.

For user convenience, an overview of the terms and categories of the production function is found on the chart on pp. 145-147.

03. 03 01

Graphic Production and Reproduction

The production of two-dimensional instructional materials (print and nonprint) containing both pictorial and written information. Includes the activities, supplies, equipment, sites, and facilities involved in such production. Does *not* include photography.

03. 03 01 01

Graphic Production and Reproduction Activities

The activities related to the production and reproduction of graphic and printed/pictorial materials.

03. 03 01 01 01

Copying (Nonphotographic)

The nonphotographic reproducing of an original material without the intermediate user step of preparing a master from which multiple copies are made.

03. 03 01 01 01 01

Thermal Copying

The activity of copying using a heat-sensitive paper or film. Exposure takes place through infrared radiation; the dark parts of the original document reflect heat which darkens the corresponding parts of the copy paper or film. Thermal copying is often used to make overhead transparencies.

03. 03 01 01 01 02

Electrostatic Copying

The activity of copying involving image-wise discharge under the influence of light from an electrically charged plate or drum. The areas that remain charged attract oppositely charged pigment particles during the subsequent "development." The image of pigment particles is then transferred onto the paper and fused into the paper support. Some electrostatic copying may be used to make overhead transparencies.

03. 03 01 01 01 03

Wet Process Copying

The activity of copying using a paper which produces a dyed gelatin matrix on exposure to the original and subsequent processing. The processed matrix is pressed into contact with a specially prepared but nonsensitized paper to which the pigment image is transferred. (Also called Dye-Transfer Copying, Wet Copying, Gelatin-Transfer Copying.)

03. 03 01 01 01 99

Other Copying

Any copying activities not listed and defined above.

Overview of Terms PRODUCTION Code Series 03.03

03. 03 01 Graphic Production and Reproduction

03. 03 01 01 Graphic Production and Reproduction Activities

03. 03 01 01 01
Copying (Non-
photographic)
03. 03 01 01 01 01
Thermal Copying
03. 03 01 01 01 02
Electrostatic Copying
03. 03 01 01 01 03
Wet Process Copying
03. 03 01 01 01 99
Other Copying
03. 03 01 01 02
Duplicating

03. 03 01 01 02 01 Diao Process Duplication

03. 03 01 01 02 02
Spirit Duplication
03. 03 01 01 02 03
Rotary Stencil Duplica-
tion

03. 03 01 01 02 04
Offset Printing
03. 03 01 01 02 99
Other Duplicating

03. 03 01 01 03
Laying Out

03. 03 01 01 04
Illustrating

03. 03 01 01 05
Lettering

03. 03 01 01 06
Mounting

03. 03 01 01 07
Laminating

03. 03 01 01 99
Other Graphic
Production and
Reproduction
Activities

03. 03 01 02 Graphic Production and Reproduction Supplies

*02. 01 02 04 01
Art and Graphic
Art Supplies
*02. 01 02 04 02
Diao Supplies

*02. 01 02 04 03 Thermal Copy Sup- plies

*02. 01 02 04 04
Electrostatic Copy
Supplies

*02. 01 02 04 05
Wet Process Copy
Supplies

*02. 01 02 04 06
Spirit Duplication
Supplies

*02. 01 02 04 07
Rotary Stencil
Duplication

*02. 01 02 04 08
Offset Printing
Supplies

*02. 01 02 04 09
Mounting/Laminat-
ing Supplies

03. 03 01 02 99
Other Graphic Produc-
tion and Reproduction
Supplies

03. 03 01 03
Graphic Production
and Reproduction
Equipment

*02. 02 03 01
Diao Printer

*02. 02 03 02
Spirit Duplicator

*02. 02 03 03
Rotary Stencil
Duplicator

*02. 02 03 04
Electrostatic Copier

*02. 02 03 05
Thermal Copier

*02. 02 03 06
Wet Process Copier

*02. 02 03 07
Offset Press

*02. 02 03 08
Sign Maker

*02. 02 03 09
Mechanical Lettering
Device

*02. 02 03 10
Photographic
Lettering Device

*02. 02 03 11
Drafting Machine

*02. 02 03 12 Drawing Board/ Table

*02. 02 03 13
Light Box

*02. 02 03 14
Dry Mount Press

*02. 02 03 15
Laminator

*02. 02 03 16
Image Modifica-
tion Device

03. 03 01 03 99
Other Graphic Produc-
tion and Re-
production Equip-
ment

03. 03 01 04
Graphic Production
and Reproduction
Sites

*02. 04 02 06
Graphic Produc-
tion Area

*02. 04 02 11
Print Shop

03. 03 01 04 99
Other Graphic
Production and Re-
production Sites

03. 03 01 99
Other Graphic
Production and
Reproduction

03. 03 02 Audio/Radio Production

03. 03 02 01 Audio/Radio Pro- duction Activities

03. 03 02 01 01
Audio/Radio Pro-
ducing

03. 03 02 01 02
Audio/Radio Di-
recting

03. 03 02 01 03
Audio/Radio
Script Writing

03. 03 02 01 04
Sound Recording

03. 03 02 01 05
Audiocassette Editing

03. 03 02 01 06
Audiocassette Duplicating

03. 03 02 01 07
Audio/Radio En-
gineering

03. 03 02 01 99
Audio/Radio Pro-
duction Activities

03. 03 02 02
Audio/Radio Pro-
duction Supplies

*02. 01 02 01 01
Audiocassette, Unre-
corded

*02. 01 02 01 02
Audiocassette, Unre-
corded

*02. 01 02 01 03
Audiocassette, Unre-
corded

03. 03 02 02 99
Other Audio/Radio
Production Supplies

03. 03 02 03
Audio/Radio Pro-
duction Equipment

*02. 02 01 01
Audiocassette Recorder

*02. 02 01 02
Audiocassette Player

*02. 02 01 03
Audiocassette Recorder

*02. 02 01 04
Audiocassette Recorder

*02. 02 01 05
Audiocassette Player

*02. 02 01 06
Audio Transcriber

*02. 02 01 07 Audiocassette Duplicator

*02. 02 01 08
Audio Console

*02. 02 01 09
Audio Amplification
Equipment

*02. 02 01 10
Audio Mixer

*02. 02 01 11
Audio Compressor

*02. 02 01 14
Headset

*02. 02 01 15
Loudspeaker

*02. 02 01 16
Microphone

03. 03 02 03 99
Other Audio/Radio
Production Equipment

03. 03 02 04
Audio/Radio Pro-
duction Sites

*02. 04 02 01
Audio Control Room

*02. 04 02 08
Mobile Studio

*02. 04 02 13
Radio Studio

*02. 04 02 14
Remote Location

*02. 04 02 15
Sound Studio

03. 03 02 04 99
Other Audio/Radio
Production Sites

03. 03 02 99
Other Audio/Radio
Production

Overview of Terms
PRODUCTION—Continued
 Code Series 03.03

03. 03 05
Television
Production

03. 03 05 01
Television Production
Activities

03. 03 05 01 01
 Television Producing
 03. 03 05 01 02
 Television Directing
 03. 03 05 01 03
 Television Script
 Writing
 03. 03 05 01 04
 Television Lighting
 03. 03 05 01 05
 Television Camera
 Operating
 03. 03 05 01 06
 Television Engineering
 03. 03 05 01 07
 Videorecording
 03. 03 05 01 08
 Videotape Editing
 03. 03 05 01 09
 Videotape Duplicating
 03. 03 05 01 99
 Other Television Pro-
 duction Activities
 03. 03 05 02
 Television Production
 Supplies

*02. 01 02 03 01
 Videotape, Unrecorded
 03. 03 05 02 99
 Other Television Pro-
 duction Supplies

03. 03 05 03
 Television Production
 Equipment

*02. 02 04 01
 Videotape Recorder
 *02. 02 04 03
 Videotape Editor
 *02. 02 04 04
 Videotape Duplicator
 *02. 02 04 05
 Television Camera
 *02. 02 04 06
 Television Camera
 Support
 *02. 02 04 08
 Television Monitor
 *02. 02 04 09
 Film Chain
 *02. 02 04 10
 Television Console

*02. 02 04 11
 Television Switcher
 *02. 02 05 02
 Camera Lens,
 Interchangeable
 *02. 02 05 03
 Exposure Meter
 *02. 02 05 05
 Lighting
 Equipment
 03. 03 05 03 99
 Other Television
 Production
 Equipment
 03. 03 05 04
 Television Production
 Sites

*02. 04 02 08
 Mobile Studio
 *02. 04 02 14
 Remote Location
 *02. 04 02 16
 Television Control
 Room
 *02. 04 02 17
 Television Studio
 03. 03 05 04 99
 Other Television
 Production Sites
 03. 03 05 99
 Other Television
 Production

03. 03 06
Computer-Assisted
Instruction (CAI)
Production

03. 03 06 01
Computer-Assisted
Instruction Production
Activities

03. 03 06 01 01
 CAI Sequencing
 03. 03 06 01 02
 CAI Branching
 03. 03 06 01 03
 CAI Frame Writing
 03. 03 06 01 04
 CAI Coding
 03. 03 06 01 05
 CAI Entering
 03. 03 06 01 06
 CAI Listing
 03. 03 06 01 07
 CAI Checking
 03. 03 06 01 08
 CAI Lesson Testing
 03. 03 06 01 09
 CAI Debugging
 03. 03 06 01 99
 Other Computer As-
 sisted Instruction Pro-
 duction Activities
 03. 03 06 02
 Computer-Assisted Instru-
 ction Production Supplies

*02. 01 02 02 03
 Computer Magnetic
 Tape, Unrecorded
 *02. 01 02 02 04
 Computer Output
 Forms
 03. 03 06 02 99
 Other Computer-As-
 sisted Instruction
 Supplies

03. 03 06 03
 Computer-Assisted
 Instruction Production
 Equipment

*02. 02 02 01
 Computer
 *02. 02 02 02
 Computer Terminal
 *02. 02 02 03
 Computer Input
 Device
 *02. 02 02 04
 Computer Output
 Device

03. 03 99
Other Production

03. 03 06 03 99
 Other Computer-
 Assisted Instruction
 Production Equipment
 03. 03 06 04
 Computer-Assisted
 Instruction Production
 Sites
 *02. 04 02 02
 Computer Center
 03. 03 06 04 99
 Other Computer
 Assisted-Instruction
 Production Sites
 03. 03 06 99
 Other Computer-
 Assisted Instruction
 Production

03. 03

PRODUCTION—Continued

03. 03 01

Graphic Production and Reproduction—Continued

03. 03 01 01

Graphic Production and Reproduction Activities—Continued

03. 03 01 01 02

Duplicating

The activity of nonphotographic reproducing an original (two-dimensional) material with the intermediate user step of preparing a master from which multiple copies can be made.

03. 03 01 01 02 01

Diazo Process Duplication

The activity of duplicating in which a diazonium salt is destroyed by exposure to ultraviolet light. A translucent master with an opaque or light absorbing image is placed between the ultraviolet light source and the dyeline (or diazo) paper or film. The material is exposed to ultraviolet light. The diazo film or paper is then "developed" by treatment with a suitable phenolic coupler, usually ammonia (or ammonia-related). Diazo process is often used to make overhead transparencies.

03. 02 01 01 02 02

Spirit Duplication

The activity of duplicating employing a master copy made by placing a sheet of direct-process dye material behind the master and writing, typing, or drawing on the face of the master. The dye adheres to the back of the master. The master is placed (usually on a rotary drum) on a spirit duplicator with the dye side out. The master is brought into contact with a sheet of paper wetted with duplication fluid. The dye mixes with the fluid and is pressed onto the paper. (Also called Ditto.)

03. 03 01 01 02 03

Rotary Stencil Duplication

The activity of duplicating in which a master is prepared by writing, drawing, typing, or otherwise perforating on the face of a special mimeograph master (stencil). The pressure of the writing or typing makes tiny holes in the stencil which is then placed (usually on a rotary drum) on a rotary stencil duplicator. Ink is then forced through the holes and onto the blank paper which comes into contact with the stencil. Produces different colored images depending on the ink used. (Also called Stencil Duplication.)

03. 03 01 01 02 04

Offset Printing

The activity of printing using a process (based on lithography) making a large number of copies by using an intermediate master or plate. In offset printing the master does not come into direct contact with the copies made, inking instead an intermediate roller which transfers ink to the paper. Offset printing is the most common form of printing in instructional institutions and organizations.

03. 03 01 01 02 99

Other Duplicating

Any duplicating not listed and defined above.

03. 03 01 01 03

Laying Out

The activity of preparing a visualized plan for a display, poster, publication, or other presentation. It is usually done in scale and with sufficient detail to indicate how the final product will appear.

03. 03 01 01 04

Illustrating

The activity of making visual images on paper, acetate, or other substances. Includes preparation of charts and graphs. (Also called Drawing.)

03. 03 01 01 05

Lettering

The activity of applying letters and numbers to create text, titles, or captions. A wide assortment of lettering procedures exist involving such aids as lettering guides, mechanical tracing lettering guides, and a variety of letters including precut and dry-transfer letters.

03. 03 01 01 06

Mounting

The activity of attaching one surface or material to another surface or material in a process using heat and/or pressure and/or an intermediary paper. In dry mounting, the intermediary paper adheres both to the material to be mounted and the mounting surface.

03. 03 01 01 07

Laminating

The activity of adhering a special transparent protective film to the image surface of a two-dimensional material. The process usually involves some type of acetate, vinyl, or mylar film which has a transparent adhesive coating on one side. Depending on the type of film being used, it may be applied by either a cold process or heat process and by hand or by machine.

03. 03 01 01 99

Other Graphic Production and Reproduction Activities

Any graphic production and reproduction activities not listed and defined above.

03. 03 01 02

Graphic Production and Reproduction Supplies

The supplies used in the production and reproduction of graphic and printed/pictorial materials. Does *not* include supplies for photography. The following list of selected items is taken from the **MATERIALS (02.01)** portions of this handbook and is presented here *for user convenience only*. Data are to be recorded under the category indicated by the code number given.

*02. 01 02 04 01

Art and Graphic Art Supplies

The materials used for the preparation of original drawings, signs, and other similar art work, illustrations, and/or reproduction masters. Art supplies include, but are not limited to, such items as pens, brushes, inks, templates, stencils, papers, transfer lettering, and drawing aids.

03. 03

PRODUCTION—Continued

03. 03 01

Graphic Production and Reproduction—Continued

03. 03 01 02

Graphic Production and Reproduction Supplies—Continued

*02. 01 02 04 02

Diazo Supplies

The materials used in the diazo process. The principal items include specially prepared translucent masters, diazo film (frequently referred to as "foils"), and developer.

*02. 01 02 04 03

Thermal Copy Supplies

The specially surfaced film and paper used in the thermal copy process. The film and/or paper is not sensitive to light but reacts to the heat radiated by the image area of an original when that surface is exposed to infrared light.

*02. 01 02 04 04

Electrostatic Copy Supplies

The materials used in the electrostatic copy process. Principal items include paper, film, and a pigmented powder (toner).

*02. 01 02 04 05

Wet Process Copy Supplies

The materials used in a copying process which usually uses a gelatin matrix. The principal items include a specially treated paper, masters (matrices), and fluid.

*02. 01 02 04 06

Spirit Duplication Supplies

The materials used in spirit duplication process. The principal items include spirit duplicator masters (with a dye sheet backing), duplication fluid, and paper.

*02. 01 02 04 07

Rotary Stencil Duplication

The materials used in the rotary stencil duplication process. The principal items include rotary stencils (an oiled paper which easily retains sharp lines and is easy to cut), ink, paper, and correction materials.

*02. 01 02 04 08

Offset Printing Supplies

The materials used in the offset (lithography) printing process. The principal items include plates or masters, inks, and paper.

*02. 01 02 04 09

Mounting/Laminating Supplies

The materials used in the mounting and/or laminating of pictures and other printed/pictorial materials. Principal items include laminating film, mounting materials, and mounting boards.

03. 03 01 02 99

Other Graphic Production and Reproduction Supplies

Any graphic production and reproduction supplies not listed and defined above.

03. 03 01 03

Graphic Production and Reproduction Equipment

The equipment utilized in the production of graphic and printed/pictorial materials. Does *not* include photography equipment. The following list of selected items is taken from the DEVICES (02.02) portions of the handbook and is presented here *for user convenience only*. Data are to be recorded under the category indicated by the code number given.

*02. 02 03 01

Diazo Printer

The device(s) necessary for the production of diazo-sensitized materials. It may consist of an ultraviolet exposure unit only, or may include both exposure and developing units.

*02. 02 03 02

Spirit Duplicator

A duplicating machine which prints on paper from a paper master (original) on which there is a dye image. Paper passing through the machine is dampened slightly with a special fluid to receive and retain the dye image.

*02. 02 03 03

Rotary Stencil Duplicator

A machine for making copies of written matter or drawings by means of a stencil fastened to a rotating drum. Ink is squeezed through the stencil, thereby making a copy on the paper fed through the machine. (Also called Stencil Duplicator.)

*02. 02 03 04

Electrostatic Copier

A machine that prints a page at a time by an electrostatically charged powder deposited on the page with the entire page determined before printing.

*02. 02 03 05

Thermal Copier

A copying machine which exposes and develops images by infrared heat on special films and papers.

*02. 02 03 06

Wet Process Copier

A copy machine which utilizes a wet, gelatin-transfer process in transferring images on specially prepared paper.

*02. 02 03 07

Offset Press

A printing press using the photo-offset lithography wherein the inked surface does not come into contact with the paper to be printed.

*02. 02 03 08

Sign Maker

A hand-operated small printing press with large, movable type. It is used mostly to make signs and posters which have no pictorial material.

*02. 02 03 09

Mechanical Lettering Device

A device with lettering guides and scribe pens used in the lettering (by hand) of signs, mechanical drawings, and other original artwork.

03. 03

PRODUCTION—Continued

03. 03 01

Graphic Production and Reproduction—Continued

03. 03 01 03

Graphic Production and Reproduction Equipment—Continued

*02. 02 03 10

Photographic Lettering Device

A device with a master alphabet negative, exposure, and processing units which produce photographic copies of selected letters on strips of paper or film. (Also called Headliner, Strip Printer.)

*02. 02 03 11

Drafting Machine

A mechanical device for reading measurements and creating lines of any angle anywhere on a drawing board or table. It combines the drafting functions of a T-square, a protractor, and a triangle.

*02. 02 03 12

Drawing Board/Table

A rectangular, smooth, special working surface, for drawing, drafting, and illustrating.

*02. 02 03 13

Light Box

A back-illuminated, translucent surface, used for viewing and working with transparent graphic and photographic materials. (Also called Light Table.)

*02. 02 03 14

Dry Mount Press

An electrically heated press which applies heat and pressure for mounting and/or laminating flat graphic and photographic materials.

*02. 02 03 15

Laminator

A device which passes flat material through rollers and applies heat and/or pressure to seal a clear adhesive plastic surface on flat material. Does *not* include *Dry Mount Press* (02.020314), although it can be used for laminating.

*02. 02 03 16

Image Modification Device

A camera-like device used for enlarging or reducing the images on two-dimensional artwork or copy and projecting it on a translucent plate in the device. The image can then be traced or (in some models) copied by using light-sensitive materials. (Also called Enlarging-Reducing Machine, Enlarger-Reducer.)

03. 03 01 03 99

Other Graphic Production and Reproduction Equipment

Any graphic production and reproduction equipment not listed and defined above.

03. 03 01 04

Graphic Production and Reproduction Sites

The areas and facilities designated and equipped for the production and

reproduction of graphic and printed/pictorial materials. Does *not* include sites for photography. The following list of selected items is taken from the **SETTINGS** (02.04) portions of this handbook and is presented here *for user convenience only*. Data are to be recorded under the category indicated by the code number given.

*02. 04 02 06

Graphic Production Area

An instructional support area specially designated and equipped for the production of graphic materials. It does *not* include *Photographic Studio* (02.040210) or *Print Shop* (02.040211).

*02. 04 02 11

Print Shop

An area specially designated and equipped with presses for offset and/or letterpress operations. Does *not* include space for general graphic work. (See *Graphic Production Area* (02.040206).)

03. 03 01 04 99

Other Graphic Production and Reproduction Sites

Any graphic production and reproduction sites not listed and defined above.

03. 03 01 99

Other Graphic Production and Reproduction

Any graphic production and reproduction not listed and defined above.

03. 03 02

Audio/Radio Production

The production of sound for transmission and/or recording. Audio programs may be produced for sound presentation only (audio only) or to accompany other printed or displayed materials, such as books, motion pictures, slides, filmstrips, videotapes. Includes the activities, supplies, equipment, sites, and facilities utilized in audio/radio production.

03. 03 02 01

Audio/Radio Production Activities

Activities related to production of sounds and audiorecordings.

03. 03 02 01 01

Audio/Radio Producing

The activity of assuming the overall responsibility for and controlling the production of an audio or radio program. Includes the coordination and scheduling of personnel, resources, and facilities.

03. 03 02 01 02

Audio/Radio Directing

The activity of providing instructions to both technical personnel and performers for preparing and presenting an audio production for an audience, for a radio broadcast, or for recording.

03. 03 02 01 03

Audio/Radio Script Writing

The activity of preparing a script for the production of an audio or radio

03. 03

PRODUCTION—Continued

03. 03 02

Audio/Radio Production—Continued

03. 03 02 01

Audio/Radio Production Activities—Continued

03. 03 02 01 03

Audio/Radio Script Writing—Continued

program. Includes dialogue, narration, sound effects, music cues, and any other relevant information.

03. 03 02 01 04

Sound Recording

The activity of using an audiotape recorder and related audio equipment such as mixers, amplifiers, and sound sources to record sounds on an audiotape. Includes placement of microphone, mixing sounds but *not* the editing of tape (see Audiotape Editing (03.03020105).)

03. 03 02 01 05

Audiotape Editing

The activity of selecting and rearranging recorded sounds into a new continuity. It may be done by rerecording from several sources or by cutting and splicing audiotape.

03. 03 02 01 06

Audiotape Duplicating

The activity of electronically reproducing the signal of a recorded audiotape onto other blank audiotape(s), thus replicating the information of the first to the duplicate(s). (Also called Copying.)

03. 03 02 01 07

Audio/Radio Engineering

The activity of overseeing and controlling the electronic aspects of the audio/radio program to ensure that the audio signals are adequate for transmission or for recording.

03. 03 02 01 99

Other Audio/Radio Production Activities

Any audio/radio production activities not listed and defined above.

03. 03 02 02

Audio/Radio Production Supplies

The supplies related to production or reproduction of sounds and audio-recordings. The following list of selected items is taken from the **MATERIALS** (02.01) portions of this handbook and is presented here for user convenience only. Data are to be recorded under the category indicated by the code number given.

*02. 01 02 01 01

Audiocard, Unrecorded

A thin card with a strip of ¼-inch unrecorded audiotape horizontally across the bottom. Space is provided on the card above the audiotape for pictures or words.

*02. 01 02 01 02

Audiotape, Unrecorded

A strip of magnetic tape upon which sound can be recorded for later playback, using the proper devices. While audiotape ranges in size from 150 mils to 1 inch, the most common size is 150 mils (in cassettes) and 1/4 inch. (Also called Blank Tape or Blank Audiotape.)

*02. 01 02 01 03

Audiopage, Unrecorded

A specially prepared page or sheet backed with a magnetic oxide (similar to that on audiotape) upon which sounds may be electronically recorded for playback, using the proper devices.

03. 03 02 02 99

Other Audio/Radio Production Supplies

Any audio/radio production supplies not listed and defined above.

03. 03 02 03

Audio/Radio Production Equipment

The equipment related to the production and reproduction of sounds and audiorecordings. The following list of selected items is taken from the DEVICES (02.02) portions of this handbook and is presented here *for user convenience only*. Data are to be recorded under the category indicated by the code number given.

*02. 02 01 01

Audiotape Recorder

A unit which can record and play back sound on audiotape. It contains heads for erasing, recording, and playback; amplifiers; and tape-transport mechanisms. The recorder may be monophonic, stereophonic, or four-channel and may have provisions for comparison of channels. (See Audio Comparator, Channels, Monophonic, Stereophonic, Four-Channel.) (Also called Tape Recorder, Recorder/Reproducer.)

*02. 02 01 02

Audiotape Player

A unit which can play back recorded audiotapes but which is not capable of recording. It contains a head for playback, amplifiers, and tape transport mechanisms. (Also called Playback Unit or Audio Player.)

*02. 02 01 03

Audiocard Recorder

An audio recorder/player which uses only audiocards.

*02. 02 01 04

Audiopage Recorder

An audiorecorder which uses only audiopages.

*02. 02 01 05

Audiodisc Player

A device with built-in amplifier and speakers which reproduces sound from audiodiscs. (Also called Record Player or Phonograph.)

03. 03

PRODUCTION—Continued

03. 03 02

Audio/Radio Production—Continued

03. 03 02 03

Audio/Radio Production Equipment—Continued

*02. 02 01 06

Audio Transcriber

A device which records and/or plays back a dictation/transcription belt or other audiorecording intended for transcription use.

*02. 02 01 07

Audiotape Duplicator

A device used to transfer the audio signal from one audiotape to another. Duplicators usually make the transfer to one or more copies at speeds much faster than real time or ordinary playback speeds. It may duplicate audiotapes on reels, cassettes, or cartridges.

*02. 02 01 08

Audio Console

A rack, bench, or desk-type structure equipped with the devices for use in processing audio signals during recording, playback, or radio broadcast of audio-recordings or live performances.

*02. 02 01 09

Audio Amplification Equipment

Any electronic devices which amplify audio signals to a higher level. Includes amplifiers and preamplifiers.

*02. 02 01 10

Audio Mixer

A device which permits the combining of two or more input signals simultaneously into one audio system, subject to various controls of the mixer.

*02. 02 01 11

Audio Compressor

An electronic device, usually involving an audiotape, capable of compression and expansion of an audio signal with respect to its speed without a corresponding increase or decrease in pitch.

*02. 02 01 14

Headset

A device consisting of one or two small loudspeakers or audio reproducers connected to a headband for individual listening to audio sources. Some headsets are equipped with a small microphone to permit two-way communication. Includes special headsets used with audio induction loops. (Also called Headphone or Earphone.)

*02. 02 01 15

Loudspeaker

A device which converts electrical impulses into sounds. Speakers may be in portable enclosures or permanently installed. (Also called Speaker.)

*02. 02 01 16

Microphone

A device which converts sounds into electrical signals.

03. 03 02 03 99

Other Audio/Radio Production Equipment

Any audio/radio production equipment not listed and defined above.

03. 03 02 04

Audio/Radio Production Sites

The areas and facilities designated and utilized for the production and reproduction of sounds and audiorecordings. Includes areas where the broadcast originates or recording is done outside the studio. The following list of selected terms is taken from the **SETTINGS** (02.04) portions of this handbook and is presented here *for user convenience only*. Data are to be recorded under the category indicated by the code number given.

*02. 04 02 01

Audio Control Room

An area usually located adjacent to or as part of a sound or radio studio, with glass panels installed to permit visual contact between the two areas. It usually contains an audio console, audiotape recorders, and other accessories.

*02. 04 02 08

Mobile Studio

A van or truck specially designed and equipped to carry motion picture, radio, or television equipment and to either record events away from the studio and/or to transmit a radio or television signal of the events back to the central studio for broadcast. The unit may contain a generator or cables for obtaining power from the location. (Also called Mobile Unit, Mobile Van, Remote Unit, or variants.)

*02. 04 02 13

Radio Studio

An area specially designed and/or designated and equipped for radio broadcasting. It includes microphones and other specialized equipment, plus a control booth. The size ranges from a network studio which can also hold an audience to small installations with a single microphone and transmitter.

*02. 04 02 14

Remote Location

A nonstudio area used as a setting for the production of audio, television, or photographic materials.

*02. 04 02 15

Sound Studio

An area specially designed or adapted and equipped to record sound. The studio usually includes an acoustically treated area with microphones for the performance and a separate soundproof area (see *Audio Control Room* (02.040201)) for recording equipment and personnel. (Also called Recording Studio.)

03. 03 02 04 99

Other Audio/Radio Production Sites

Any audio/radio production sites not listed and defined above.

03. 03 PRODUCTION—Continued

03. 03 02 Audio/Radio Production—Continued

03. 03 02 99 Other Audio/Radio Production

Any audio/radio production not listed and defined above.

03. 03 03 Still Photography Production

The production of still photographic materials (as opposed to motion pictures) for instructional purposes. Includes the activities, supplies, equipment, sites, and facilities for producing individual items or sets of photographic materials which may be accompanied by related audio materials and for programing or synchronizing various materials for presentation. Includes production of overhead transparencies and lantern slides by photographic means. Includes the activities, supplies, equipment, sites, and facilities involved in both color and black and white photography.

03. 03 03 01 Still Photography Production Activities

The activities related to the production of still photographic materials.

03. 03 03 01 01 Still Photography Producing

The activity of assuming overall responsibility for and control of the production of photographic materials, particularly in sets. The term is not usually used for a single photograph but for a collection, especially a collection to be presented in sequence.

03. 03 03 01 02 Photographic Script Writing

The activity of preparing a script for the production of still photographs or a presentation or unit of instruction based on photographs. Includes storyboarding activities.

03. 03 03 01 03 Photographic Lighting

The activity of arranging for and setting up lights and lighting equipment to provide sufficient illumination to photograph an object, person, or scene with the desired effect.

03. 03 03 01 04 Photographing

The activity of operating a camera to record on photographic film the image viewed by the lens of the camera. Includes both technical and aesthetic considerations. (Do not record Photographic Copying (03.03030105), activities here.)

03. 03 03 01 05 Photographic Copying

The activity of photographing a basically two-dimensional object, such as a chart, graph, picture, or textual materials. It is usually done at a special

location with a special camera, lens, or accessories. (Do *not* record general photography here—see Photography (03.03030104).)

03. 03 03 01 06

Photographic Printing

The activity of making an image (usually positive) on photographic paper from a piece of exposed and developed photographic film (usually negative). Includes contact printing, reducing, and enlarging on film as well as paper. Does *not* include Photographic Processing (03.03030107).

03. 03 03 01 07

Photographic Processing

The activity of treating exposed photographic film or paper with chemicals in order to develop and stabilize the images which have been recorded on them. Includes such specific tasks as developing, stopping, fixing, washing, clearing, bleaching, toning, but *not* printing or enlarging. (See Photographic Printing (03.03030107).)

03. 03 03 01 08

Presentation Programing

The activity of sequencing the individual instructional materials (e.g., slides, filmstrips, audiotapes) of a presentation according to a script and/or preparing any other materials needed for automatic presentation of the instructional materials in the correct sequence.

03. 03 03 01 99

Other Still Photography Production Activities

Any still photography production activities not listed and defined above.

03. 03 03 02

Still Photography Production Supplies

The supplies used in the production of still photographic materials and of presentations or units of instruction based on still photographic materials. The following list of selected items is taken from the **MATERIALS** (02.01) portions of this handbook and is presented here *for user convenience only*. Data are to be recorded under the category indicated by the code number given.

*02. 01 02 05 01 04

Still Photographic Film

A photographic film intended for use in still (as opposed to motion picture) photography. The film comes in a variety of sizes. Includes microfilm stock.

*02. 01 02 05 02

Photographic Paper

An opaque material, one surface of which is coated with a light-sensitive emulsion on which visual data and images can be recorded (by exposure and processing). Processed photographic paper may have positive or negative images, either black and white or color, and is supplied in a number of sizes and types.

*02. 01 02 05 03

Photographic Chemicals

The chemicals used in the processing of photographic film and paper.

03. 03

PRODUCTION—Continued

03. 03 03

Still Photography Production—Continued

03. 03 03 02

Still Photography Production Supplies—Continued

*02. 01 02 05 04

Flashlamp

A high intensity photographic lamp that is fired electrically or mechanically. It generates light by rapid combustion of certain metals in oxygen. It has a relatively short flashing duration and can be used only once. (Also called Flashbulbs.)

03. 03 03 02 99

Other Still Photography Production Supplies

Any still photography production supplies not listed and defined above.

03. 03 03 03

Still Photography Production Equipment

The equipment used in the production of still photographic materials and of presentations or units of instruction based on still photographic materials. The following list of selected items is taken from the DEVICES (02.02) portions of this handbook and is presented here *for user convenience only*. Data are to be recorded under the category indicated by the code number given.

*02. 02 05 01 02

Camera, Still Photographic

A camera used for making photographs (or negatives) intended to be shown as single photographs. They are available in a variety of types for different films and purposes. The most commonly used for production in instructional institutions are 35mm and 2½ by 2¼-inch cameras, so called because of the film sizes which they use.

*02. 02 05 02

Camera Lens, Interchangeable

Optical devices which form the image on the film and which are interchangeable with other lenses on the body of the camera. (Do *not* record plus lenses or other lenses which are added to the lens mounted on the camera.)

*02. 02 05 03

Exposure Meter

A photographic device used either to measure light falling on or reflected from the object to be photographed. Special adaptations include a flash meter, used to measure light from an electronic flash or flashlamp, and a color meter, used to measure color temperature. (Also called Light Meter.) Does *not* include exposure meters which are a part of a camera.

*02. 02 05 04

Electronic Flash

An electronic lighting device which gives off a brief but intense flash of light to illuminate the object to be photographed. Many are portable and may be attached to the camera. Includes any stands and supports, filters, cords, portable power sources and accessories.

*02. 02 05 05

Lighting Equipment

The lights used to provide constant illumination for the object to be photographed. Includes stands and supports, filters, reflectors, and accessories used to change the color and amount of light. (Does *not* include *Electronic Flash* (02.020504), or *Flashlamps* (02.01020504).

*02. 02 05 06

Camera Support

A device to support a camera during photography. Includes tripods, high hats, monopods, etc.

*02. 02 05 07

Copystand

A vertical or horizontal stand with an adjustable bracket to hold a camera for photographing flat materials at close range. Some copystands may have permanently attached cameras.

*02. 02 05 09

Slide Duplicator

An adjustable stand which holds a camera, lens, and illumination source for optical duplication of slides. The camera and lens may be a part of the stand. Does *not* include a portable slide duplicating unit without illumination source here. Record it as *Camera Lens, Interchangeable* (02.020502).

*02. 02 05 10

Enlarger

A projection device used for printing images of increased or reduced size on paper or film from a photographic negative.

*02. 02 05 11

Darkroom Equipment

The devices used during the printing and processing of films and paper. Include trays, tanks, film reels, washers and dryers, but *not* *Enlarger* (02.020510), or *Photographic Processor* (02.020512).

*02. 02 05 12

Photographic Processor

A device in which still photographic films or papers (but not motion picture films) are automatically developed, fixed, and sometimes washed and dried. (Also called a *Processing Machine* or *Film Processor*.)

*02. 02 06 05

Sound Synchronizer

A device linking an audiotape player or recorder and an automatic slide projector or filmstrip projector, which causes the projector to advance at a signal on the audiotape. (Do *not* include any sound synchronizer built into an audiotape recorder or player.)

*02. 02 06 06

Projector Dissolve Control

A device which controls the illumination from two or more projectors so that images on the screen seem to dissolve from one into another. The unit is usually

03. 03

PRODUCTION—Continued

03. 03 03

Still Photography Production—Continued

03. 03 03 03

Still Photography Production Equipment—Continued

*02. 02 06 06

Projector Dissolve Control—Continued

electronic in nature and dims one projection lamp while simultaneously raising the intensity of the other. (Do not include a television dissolve unit here.)

*02. 02 06 07

Projection/Sound Programmer

A device which controls the operation or synchronization among sound reproduction and/or projection devices.

03. 03 03 03 99

Other Still Photography Production Equipment

Any still photography production equipment not listed and defined above.

03. 03 03 04

Still Photography Production Sites

The areas and facilities designated and utilized for the production of still photographic materials and of presentation or units of instruction based on still photographic materials. Includes areas where photography is done outside of the studio. The following list of selected items is taken from the **SETTINGS** (02.04) portion of this handbook and is presented here *for user convenience only*. Data are to be recorded under the category indicated by the code numbers given.

*02. 04 02 04

Darkroom

An area specially equipped for the printing and processing of photographic films and papers. It is lightproof and has special safety lights and ventilation.

*02. 04 02 10

Photographic Studio

An area specially designed and/or designated and equipped for photography and photographic copying.

*02. 04 02 14

Remote Location

A nonstudio area used as a setting for the production of audio, television, or photographic materials.

03. 03 03 04 99

Other Still Photography Production Sites

Any still photography production sites not listed and defined above.

03. 03 03 99

Other Still Photography Production

Any still photography production not listed and defined above.

03. 03 04

Motion Picture Production

The production of motion pictures for instructional purposes. Includes the activities, supplies, equipment, sites, and facilities involved. Does not include the people and items to be photographed and recorded (e.g., actors, properties, costumes).

03. 03 04 01

Motion Picture Production Activities

The activities related to the production of motion pictures.

03. 03 04 01 01

Motion Picture Producing

The activity of assuming overall responsibility for and control of a motion picture. Includes the coordination and scheduling of personnel, resources, and facilities.

03. 03 04 01 02

Motion Picture Directing

The activity of providing instructions to both technical personnel and performers in preparing and presenting a program for filming.

03. 03 04 01 03

Motion Picture Script Writing

The activity of preparing a script for the production of a motion picture. Includes dialogues, narration, instructions for action and for specific shots.

03. 03 04 01 04

Motion Picture Lighting

The activity of arranging for and setting up lights and lighting equipment to provide sufficient illumination to photograph the scene with the desired effect for the motion picture.

03. 03 04 01 05

Filming

The activity of using a motion picture camera to record the image viewed by the lens of the camera. Includes both technical and aesthetic considerations.

03. 03 04 01 06

Motion Picture Sound Recording

The activity of using a sound recorder and associated audio equipment to record sounds for a motion picture. Includes placement of microphones, mixing sounds, balancing sound levels, but not editing. (See Motion Picture Editing (03.03040107).) Includes any dubbing and rerecording.

03. 03 04 01 07

Motion Picture Editing

The activity of selecting and rearranging segments of motion pictures and related sound in a continuous, coherent fashion. It is done by physically cutting and splicing the motion picture film. Includes only that audiotape editing which is directly related to the production of the film.

03. 03

PRODUCTION—Continued

03. 03 04

Motion Picture Production—Continued

03. 03 04 01

Motion Picture Production Activities—Continued

03. 03 04 01 08

Animating

The activity of creating apparent mobility of inanimate objects or drawings on motion picture film. Does *not* include any of the other Motion Picture Production Activities.

03. 03 04 01 99

Other Motion Picture Production Activities

Any motion picture production activity not listed and defined above.

03. 03 04 02

Motion Picture Production Supplies

The supplies used in the production of motion pictures. The following list of selected items is taken from the **MATERIALS** (02.01) portions of this handbook and is presented here *for user convenience only*. Data are to be recorded under the category indicated by the code number given.

*02. 01 02 05 01 01

Motion Picture Film, 16mm

A photographic film, 16mm wide, intended for the production of motion pictures. The film may be double perforation or single perforation with or without a magnetic audiorecording stripe.

*02. 01 02 05 01 02

Motion Picture Film, 8mm

A photographic film intended for motion picture production which is 8mm wide with perforations (similar to 16mm motion picture film) along one edge. The film may have a magnetic audiorecording stripe.

*02. 01 02 05 01 03

Motion Picture Film, Super/Single 8mm

A photographic film intended for motion picture production and which is 8mm wide but with a single row of sprocket holes smaller and placed differently than 8mm motion picture film. The film may have a magnetic stripe for audiorecording and is usually packaged in a special cartridge. Super 8mm and single 8mm film are the same size while the cartridges are different.

*02. 01 02 01 02

Audiotape, Unrecorded

A strip of magnetic tape upon which sound can be recorded for later playback using the proper devices. While audiotape ranges in size from 150 mils to 1 inch, the most common size is 150 mils (in cassettes) and ¼ inch. (Also called Blank Tape or Blank Audiotape.)

*02. 01 02 01 04

Magnetic Film, Unrecorded

A motion picture film based with sprocket holes but backed with a magnetic

oxide (similar to that on audiotape) upon which sounds may be recorded for playback using the proper devices. It is used primarily in the production of motion pictures with double system synchronous sound. Magnetic film is available in most of the same sizes as motion picture film. (Also called Fullcoat or Blank Magnetic Film.)

03. 03 04 02 99

Other Motion Picture Production Supplies

Any motion picture production supplies not listed and defined above.

03. 03 04 03

Motion Picture Production Equipment

The equipment used in the production of motion pictures. The following list of selected items is taken from the **DEVICES** (02.02) portion of this handbook and is presented here *for user convenience only*. Data are to be recorded under the category indicated by the code number given.

*02. 02 01 01

Audiotape Recorder

A unit which can record and play back sound on audiotape. It contains heads for erasing, recording, and playback; amplifiers; and tape transport mechanisms. The recorder may be monophonic, stereophonic, or four-channel and may have provisions for comparison of channels. (See Audio Comparator, Channels, Monophonic, Stereophonic, Four-channel.) (Also called Tape Recorder, Recorder/Reproducer.)

*02. 02 01 01 04

Audiotape Recorder, Magnetic Film

An audiotape recorder which uses only magnetic film. It is used only in motion picture production.

*02. 02 01 08

Audio Console

A rack, bench, or desk-type structure equipped with the devices for use in processing audio signals during recording, playback, or radio broadcast of audio-recordings or live performances.

*02. 02 01 09

Audio Amplification Equipment

Any electronic devices which amplify audio signals to a higher level. Includes amplifiers and preamplifiers.

*02. 02 01 10

Audio Mixer

A device which permits the combining of two or more input signals simultaneously into one audio system, subject to various controls of the mixer.

*02. 02 01 14

Headset

A device consisting of one or two small loudspeakers or audio reproducers connected to headband for individual listening to audio sources. Some headsets are equipped with a small microphone to permit two-way communication.

03. 03

PRODUCTION—Continued

03. 03 04

Motion Picture Production—Continued

03. 03 04 03

Motion Picture Production Equipment—Continued

*02. 02 01 14

Headset—Continued

Includes special headsets used with audio induction loops. (Also called Headphone or Earphone.)

*02. 02 01 15

Loudspeaker

A device which converts electrical impulses into sounds. Speakers may be in portable enclosures or permanently installed. (Also called Speaker.)

*02. 02 01 16

Microphone

A device which converts sounds into electrical signals.

*02. 02 05 01 01

Camera, Motion Picture

A camera which can make motion pictures. Motion picture cameras are available for making sound or silent motion pictures. The most common sizes found in instructional institutions are 16mm, 8mm, super 8mm, and single 8mm.

*02. 02 05 02

Camera Lens, Interchangeable

An optical device which forms the image on the film and which is interchangeable with other lenses on the body of the camera. Does *not* include plus lenses or other lenses which are added to the lens mounted on the camera.

*02. 02 05 03

Exposure Meter

A photographic device used either to measure light falling on or reflected from the object to be photographed. Special adaptations include a flash meter, used to measure light from an electronic flash or flashlamp, and a color meter, used to measure color temperature. (Also called a Light Meter.) Does *not* include exposure meters which are a part of a camera.

*02. 02 05 05

Lighting Equipment

The lights used to provide constant illumination for the object to be photographed. Includes stands and supports, filters, reflectors, and accessories used to change the color and amount of light. Does *not* include *Electronic Flash* (02.020504), or *Flashlamps* (02.01020504).

*02. 02 05 06

Camera Support

The device to support a camera during photography. Includes tripods, high hats, and monopods.

*02. 02 05 08

Animation Stand

An adjustable stand which holds a motion picture camera in vertical relationship to flat artwork on a movable bed with registration pins. It is used to produce animated motion pictures and is sometimes used to produce filmstrips and slides.

*02. 02 05 13

Motion Picture Processor

A device in which motion picture film (usually in minimum lengths of 25 feet) is developed and fixed.

*02. 02 05 14

Motion Picture Editor

A device for viewing motion picture film for editing purposes. It is equipped with variable speed control, or is hand operated and can be easily stopped, started, or reversed to view the film one or more frames at a time. Some models are for silent motion pictures only while others are for silent and sound motion pictures.

03. 03 04 03 99

Other Motion Picture Production Equipment

Any motion picture production equipment not listed and defined above.

03. 03 04 04

Motion Picture Production Sites

The areas and facilities designated and utilized for the production of motion pictures. Include areas where the motion pictures are produced outside of the studio. The following list of selected items is taken from the **SETTINGS** (02.04) portion of this handbook and is presented here *for user convenience only*. Data are to be recorded under the category indicated by the code numbers given.

*02. 04 02 08

Mobile Studio

A van or truck specially designed and equipped to carry motion picture, radio, or television equipment and to either record events away from the studio and/or to transmit a radio or television signal of the events back to the central studio for broadcast. The unit may contain a generator or cables for obtaining power from the location. (Also called Mobile Unit, Mobile Van, Remote Unit, and variants.)

*02. 04 02 09

Motion Picture Studio

An area specially designed and/or designated and equipped for the production of motion pictures. It includes spaces for production as well as for technical areas and equipment.

*02. 04 02 14

Remote Location

The nonstudio area used as a setting for the production of audio, television, or photographic materials.

03. 03 04 04 99

Other Motion Picture Production Sites

Any motion picture production site not listed and defined above.

03. 03

PRODUCTION—Continued

03. 03 04

Motion Picture Production—Continued

03. 03 04 99

Other Motion Picture Production

Any motion picture production not listed above.

03. 03 05

Television Production

The production of educational television programs for transmission or videorecording. Includes the activities, supplies, equipment, sites, and facilities related to television. Does *not* include those items needed for the content of the program, e.g., props, actors, and costumes.

03. 03 05 01

Television Production Activities

Activities related to the production of television programs for transmission or videorecording.

03. 03 05 01 01

Television Producing

The activity of assuming overall responsibility for and control of a television program. Includes the coordination and scheduling of personnel, resources, and facilities.

03. 03 05 01 02

Television Directing

The activity of providing instructions to both technical personnel and performers in preparing and presenting a television program. In television production, the director may not be at the point of action but in the control booth, at the television console, or the point at which picture selection is made.

03. 03 05 01 03

Television Script Writing

The activity of preparing a script for the production of a television program. Includes any action, dialogue, narration, and instructions for camera positions, cameramen, the director, and other personnel.

03. 03 05 01 04

Television Lighting

The activity of arranging and setting up lights and lighting equipment to provide sufficient illumination to photograph a scene with the desired effect for the television program.

03. 03 05 01 05

Television Camera Operating

The activity of operating a television camera to electronically transmit the image viewed by the lens of the camera. Includes technical and aesthetic elements.

03. 03 05 01 06

Television Engineering

The activity of overseeing and controlling the electronic aspects of the

television program to ensure that the sound and picture signals are adequate for transmission or for videorecording.

03. 03 05 01 07

Videorecording

The activity of operating a videotape recorder to electronically record pictures and sounds on a videotape.

03. 03 05 01 08

Videotape Editing

The activity of selecting television sequences from videorecordings and arranging them in a continuous, orderly fashion. With videotape, editing is usually done electronically, by rerecording the selected portions onto another videotape.

03. 03 05 01 09

Videotape Duplicating

The activity of electronically reproducing the signal of recorded videotape onto another blank videotape, thus duplicating the information of the first on the second. Duplicating is often done at high speed on a special videotape recorder which may duplicate one or more tapes simultaneously. Includes Videotape Copying.

03. 03 05 01 99

Other Television Production Activities

Any television production activity not listed and defined above.

03. 03 05 02

Television Production Supplies

The supplies used in the production of television programs. The following list of television programs is taken from the **MATERIALS** (02.01) portions of this handbook and is presented here *for user convenience only*. Data are to be recorded under the category indicated by the code number given.

*02. 01 02 03 01

Videotape, Unrecorded

A magnetic tape on which video and audio signals can be recorded for television use. The tape varies from $\frac{1}{4}$ to 2 inches in width and from 0.5 to 1.5 mils in thickness. The most common sizes for instructional use are $\frac{1}{4}$, $\frac{1}{2}$, and 1-inch wide. Videotape may be an open reel or in a cartridge or cassette.

03. 03 05 02 99

Other Television Production Supplies

Any television production supplies not listed and defined above.

03. 03 05 03

Television Production Equipment

The equipment used in the production of television programs. The following list of selected items is taken from the **DEVICES** (02.02) portions of this handbook and is presented here *for user convenience only*. Data are to be recorded under the category indicated by the code number given.

03. 03

PRODUCTION—Continued

03. 03 05

Television Production—Continued

03. 03 05 03

Television Production Equipment—Continued

*02. 03 04 01

Videotape Recorder

A device which can record images and sound on videotape and which can play back the videotape for viewing on a television monitor or special receiver. The videotape recorder may use reels or cartridges or cassettes. Most videotape recorders used in instructional programs are helical-scan type. (Also called VTR.) (See also *Videotape Recorder* (02.020401).)

*02. 02 04 03

Videotape Editor

A videotape recorder with special features which allow the electronic editing and rerecording of videotapes. (Do not count as a Videotape Recorder, 02.020401.)

*02. 02 04 04

Videotape Duplicator

A specially designed videotape recorder which duplicates one or more videotapes usually at a higher speed than normal playback speed.

*02. 02 04 05

Television Camera

A device which converts visual images into electrical signals which can be recorded and/or viewed on a television monitor.

*02. 02 04 06

Television Camera Support

The device used to support a television camera during use. Includes pedestals, tripods, etc.

*02. 02 04 08

Television Monitor

An electronic device that amplifies and translates some television signals (but not broadcast signals) into pictures and sound.

*02. 02 04 09

Film Chain

A system of fixed television camera(s) and appropriate projectors utilized to transmit projected materials (usually slides, motion pictures, or filmstrips) through a television system.

*02. 02 04 10

Television Console

A piece of television equipment incorporating a number of devices including controls for picture and sound monitoring and selection (see *Television Switcher* (02.020411)); controls for special effects; and controls for making technical adjustments to maintain the signal quality.

*02. 02 04 11

Television Switcher

A portable device that allows selection of the television signals from any of several video sources such as television cameras, videotape recorder, or film chain. (Do not count Television Switcher separately if it is incorporated into a *Television Console* (02.020410).)

*02. 02 05 02

Camera Lens, Interchangeable

An optical device which forms the image on the film and which is interchangeable with other lenses on the body of the camera. (Do not record plus lenses or other lenses which are added to the lens mounted on the camera.)

*02. 02 05 03

Exposure Meter

A photographic device used either to measure light falling on or reflected from the object to be photographed. Special adaptations include a flash meter, used to measure light from an electronic flash or flashlamp, and a color meter used to measure color temperature. (Also called a *Light Meter*.) Does not include exposure meters which are a part of a camera.

*02. 02 05 05

Lighting Equipment

The lights used to provide constant illumination for the object to be photographed. Includes stands and supports, filters, reflectors, and accessories used to change the color and amount of light. Does not include *Electronic Flash* (02.020504), or *Flashlamps* (02.01020504.)

03. 03 05 03 99

Other Television Production Equipment

Any television production equipment not listed and defined above.

03. 03 05 04

Television Production Sites

The areas and facilities designated and utilized for the production of television programs. Include areas where the production is done outside of the studio. The following list of selected items was taken from the *SETTINGS* (02.04) portions of this handbook and is presented here for user convenience only.

*02. 04 02 08

Mobile Studio

A van or truck specially designed and equipped to carry motion picture, radio, or television equipment and to either record events away from the studio and/or to transmit a radio or television signal of the events back to the central studio for broadcast. The unit may contain a generator or cables for obtaining power from the location. (Also called *Mobile Unit*, *Mobile Van*, *Remote Unit*, and variants.)

*02. 04 02 14

Remote Location

A nonstudio area used as a setting for the production of audio, television, or photographic materials.

03. 03

PRODUCTION—Continued

03. 03 05

Television Production—Continued

03. 03 05 04

Television Production Sites—Continued

*02. 04 02 16

Television Control Room

A special area, usually soundproofed and isolated from the stage or area where the action is taking place. The control room usually houses a television console, a film chain, control equipment, and the personnel for the direction and videorecording of the program.

*02. 04 02 17

Television Studio

An area specifically designed and/or adapted and equipped for the production of television programs. A typical studio contains spaces for talent to perform; movable cameras and sound equipment; lighting (usually overhead); and special rooms for television consoles, recording equipment, and nonperforming personnel (see *Television Control Room* (02.040216)); plus storage space. The size of a studio varies from a network studio with space for a large audience to small installations with a single camera and talent.

03. 03 05 04 99

Other Television Production Sites

Any television production site not listed and defined above.

03. 03 05 99

Other Television Production

Any television production not listed and defined above.

03. 03 06

Computer-Assisted Instruction (CAI) Production

The production of interactive instruction which utilizes a computer to present the instruction. Includes the activities, supplies, equipment, sites, and facilities involved. Items are general enough to apply to any computer-assisted instruction system, but they do assume, as an entry point, that a computer-assisted instruction system and computer language have been chosen.

03. 03 06 01

Computer-Assisted Instruction Production Activities

The activities involved in the production of computer-assisted instruction.

03. 03 06 01 01

Computer-Assisted Instruction Sequencing

The activity of selecting an appropriate sequence for the presentation of concepts in the lesson.

03. 03 06 01 02

Computer-Assisted Instruction Branching

The activity of identifying the paths from one frame to another depending upon the correctness or specific incorrectness of learner responses and identi-

fying remedial or skip-ahead options based on the correctness or specific incorrectness of learner responses.

03. 03 06 01 03

Computer-Assisted Instruction Frame Writing

The activity of writing the basic unit of the computer-assisted instruction lesson. Includes writing information, response, and feedback frames.

03. 03 06 01 04

Computer-Assisted Instruction Coding

The activity of selecting the codes in the computer language for the information, response, feedback, and branching for each frame. Includes writing the lesson and codes on coding sheets.

03. 03 06 01 05

Computer-Assisted Instruction Entering

The activity of entering the lesson from the coded sheets into the computer, usually by typing on a remote computer terminal.

03. 03 06 01 06

Computer-Assisted Instruction Listing

The activity of receiving from the computer a complete printout of the lesson the author has entered into the computer.

03. 03 06 01 07

Computer-Assisted Instruction Checking

The activity of comparing the computer listing with the coding sheets to find errors made by author or computer in entry of the lesson.

03. 03 06 01 08

Computer-Assisted Instruction Lesson Testing

The activity of performing a trial run to determine whether the information, response, feedback, and branching in the lesson work as desired.

03. 03 06 01 09

Computer-Assisted Instruction Debugging

The activity of finding errors in a computer-assisted instruction lesson, discovering the causes for the error, and correcting them so that the program runs correctly.

03. 03 06 01 99

Other Computer-Assisted Instruction Production Activities

Any computer-assisted instruction production activity not listed and defined above.

03. 03 06 02

Computer-Assisted Instruction Production Supplies

The supplies used in the production of computer-assisted instruction. The following list of selected items is taken from the **MATERIALS** (02.01) portions of this handbook and is presented here for user convenience only. Data are to be recorded under the category indicated by the code number given.

*02. 01 02 02 03

Computer Magnetic Tape, Unrecorded

The magnetic tape designed for computer use and upon which machine

03. 03

PRODUCTION—Continued

03. 03 06

Computer-Assisted Instruction (CAI) Production—continued

03. 03 06 02

Computer-Assisted Instruction Production Supplies—Continued

*02. 01 02 02 03

Computer Magnetic Tape, Unrecorded—Continued

readable data for computer use can be recorded. (Also called Blank Tape or Computer Tape.)

*02. 01 02 02 04

Computer Output Forms

Any standardized forms, paper, or film upon which the computer may register output data. Include film for Computer Output Microfilm and paper for printout but does *not* include Computer Cards, Unpunched (02.01020201).

03. 03 06 02 99

Other Computer-Assisted Instruction Production Supplies

Any computer-assisted instruction production supplies not listed and defined above.

03. 03 06 03

Computer-Assisted Instruction Production Equipment

The equipment used in the production of computer-assisted instruction. The following list of selected items is taken from the **DEVICES** (02.02) portions of this handbook and is presented here *for user convenience only*. Data are to be recorded under the category indicated by the code number given.

*02. 02 02 01

Computer

A data processor that can perform substantial computation, including numerous arithmetic or logic operations, without intervention by a human operator during the run.

*02. 02 02 02

Computer Terminal

A unit which permits one or two-way communication between a user and a computer via communications lines. The device may include features such as a cathode ray tube, typewriter/teletype unit, light pen, printer, plasma panel, television receiver, touch sensitive panel, keyboard, card reader, tape reader or audio output unit. Intelligent terminals should be recorded as terminals unless a major portion of their use is as a computer. (See Intelligent Terminal.)

*02. 02 02 03

Computer Input Device

A device which translates data from its input format (e.g. cards, mark-sensing forms) and conveys it to the computer. Includes card readers, optical scanners, etc.

*02. 02 02 04

Computer Output Device

A device which conveys the data from the computer into another format, e.g.,

printed materials, cathode ray tube display. Includes printers, plotters, computer output microfilmer, etc.

03. 03 06 03 99

Other Computer-Assisted Instruction Production Equipment

Any computer-assisted instruction production equipment not listed and defined above.

03. 03 06 04

Computer-Assisted Instruction Production Sites

The areas and facilities designated and utilized for the production of computer-assisted instruction. The following list of selected items is taken from the **SETTINGS** (02.04) portions of this handbook and is presented here *for user convenience only*. Data are to be recorded under the category indicated by the code numbers given.

*02. 04 02 02

Computer Center

An area which houses a computer with spaces for the computer itself as well as peripheral devices and tape drives. The area may also include space for staff and storage of computer-related materials.

03. 03 06 04 99

Other Computer-Assisted Instruction Production Sites

Any computer-assisted instruction production sites not listed and defined above.

03. 03 06 99

Other Computer-Assisted Instruction Production

Any computer-assisted instruction production sites not listed and defined above.

03. 03 99

Other Production

Any production not listed and defined above.

DEFINITIONS OF CLASSIFIED TERMS ABOUT EVALUATION

Code Series 03.04

03. 04

EVALUATION

The learning resources development function whose purpose is to provide specific, reliable information on a chosen topic for decisionmaking in other functions. While evaluation can apply (and does apply) to any other element of educational technology, the emphasis in this handbook is on the evaluation of learning resources (except for the evaluation of staff, which is a part of **PERSONNEL MANAGEMENT** (04.02).)

For further explanation and commentary about the evaluation function and its relationship to other elements of educational technology (particularly the research function), see "Classification of Terms About Evaluation" on p. 42 of this handbook.

For user convenience, an overview of the terms and categories of the evaluation function is found in the chart on p. 176.

Overview of Terms EVALUATION Code Series 03.04

03. 04 01 Aspects of Items Under Evaluation

03. 04 01 01
Aspects of Learner

03. 04 01 02
Aspects of Learning Resources

03. 04 01 02 01
Aspects of Materials

03. 04 01 02 01 01
Cost of Access

03. 04 01 02 01 02
Cost of Maintenance

03. 04 01 02 01 03
Shelf Life

03. 04 01 02 01 04
Use Life

03. 04 01 02 01 05
Technical Quality

03. 04 01 02 01 06
Learner Performance Gains

03. 04 01 02 01 07
Compatibility with Learner

03. 04 01 02 01 08
Compatibility with Learning Objectives

03. 04 01 02 01 09
Compatibility with Other Learning Resources

03. 04 01 02 01 10
Availability of Needed Devices

03. 04 01 02 01 99
Other Aspects of Materials

03. 04 01 02 02
Aspects of Devices

03. 04 01 02 02 01
Cost of Access

03. 04 01 02 02 02
Cost of Maintenance

03. 04 01 02 02 03
Cost of Operation

03. 04 01 02 02 04
Ease of Operation

03. 04 01 02 02 05
Use Life

03. 04 01 02 02 06
Tamper Resistance

03. 04 01 02 02 07
Frequency of Repair

03. 04 01 02 02 08
Time for Repair

03. 04 01 02 02 09
Ease of Repair

03. 04 01 02 02 10
Availability of Repair Service

03. 04 01 02 02 11
Availability of Replacement Parts

03. 04 01 02 02 12
Obsolescence

03. 04 01 02 02 13
Portability

03. 04 01 02 02 14
Safety of Use

03. 04 01 02 02 15
Availability of Materials for Devices

03. 04 01 02 02 16
Compatibility with Other Learning Resources

03. 04 01 02 02 99
Other Aspects of Devices

03. 04 01 02 03
Aspects of Techniques

03. 04 01 02 03 01
Compatibility with Learner

03. 04 01 02 03 02
Compatibility with Learning Objectives

03. 04 01 02 03 03
Compatibility with Other Learning Resources

03. 04 01 02 03 99
Other Aspects of Techniques

03. 04 01 02 04
Aspects of Settings

03. 04 01 02 04 01
Cost of Access

03. 04 01 02 04 02
Cost of Maintenance

03. 04 01 02 04 03
Occupant Safety

03. 04 01 02 04 04
Building Codes

03. 04 01 02 04 05
Lighting

03. 04 01 02 04 06
Electric Power

03. 04 01 02 04 07
Acoustics

03. 04 01 02 04 08
Provision for Electronic Delivery

03. 04 01 02 04 09
Compatibility with Learner

03. 04 01 02 04 10
Compatibility with Other Learning Resources

03. 04 01 02 04 99
Other Aspects of Settings

03. 04 01 02 05
Aspects of Content

03. 04 01 02 05 01
Accuracy of Content

03. 04 01 02 05 02
Social Acceptance of Content

03. 04 01 02 05 03
Compatibility with Learner

03. 04 01 02 05 04
Compatibility with Other Learning Resources

03. 04 01 02 05 99
Other Aspects of Content

03. 04 01 03
Aspects of a Unit of Instruction

03. 04 01 03 01
Compatibility with Learner

03. 04 01 03 02
Compatibility with Other Units of Instruction

03. 04 01 03 03
Social Acceptance of Unit of Instruction

03. 04 01 03 04
Compatibility of Unit of Instruction with Institution

03. 04 01 03 99
Other Aspects of Units of Instruction

03. 04 02 Purposes of Evaluation

03. 04 02 01
Evaluation for Revision

03. 04 02 02
Evaluation for Acquisition or Adoption

03. 04 02 03
Evaluation for Continued Use

03. 04 02 04
Evaluation for Cost Effectiveness

03. 04 02 05
Evaluation for Cost Benefit

03. 04 03 Stages of Evaluation in Development of (Instructional) Materials

03. 04 03 01
Developmental Testing

03. 04 03 02
Field Testing

03. 04 03 03
Validation Testing

03. 04 04 Sources of Evaluation

03. 04 04 01
Expert Opinion

03. 04 04 02
Literature Review

03. 04 04 03
User Survey

03. 04 04 04
Personal Observation

03. 04 04 05
Controlled Testing

03. 04 99 Other Evaluation

03. 04 EVALUATION—Continued

03. 04 01 Aspects of Items Under Evaluation

The particular aspect or feature of the subject of the evaluation.

03. 04 01 01 *Aspects of Learner*

The particular aspect or feature of the learner which is to be evaluated. Include aspects of the major classification, LEARNER (01.00), and any other categories or subcategories of Learner.

03. 04 01 02 *Aspects of Learning Resources*

The particular learning resource(s) or the aspect or feature of learning resource(s) which is to be evaluated.

03. 04 01 02 01 Aspects of Materials

The particular aspect or feature of the material which is to be evaluated.

03. 04 01 02 01 01 Cost of Access

The total expenditure of funds for obtaining the material. Includes such costs as cost of purchase, cost of rental or lease, cost of rights to use or duplicate, cost of duplication or production.

03. 04 01 02 01 02 Cost of Maintenance

The total expenditure of funds for maintaining the material. Costs may be averaged for like or similar materials.

03. 04 01 02 01 03 Shelf Life

The maximum amount of time an item may be stored *prior to use* before its natural deterioration past the point of usefulness.

03. 04 01 02 01 04 Use Life

The maximum amount of time or number of times a material may be used (under average conditions) before deterioration past the point of usefulness. Costs may be averaged for like or similar materials.

03. 04 01 02 01 05 Technical Quality

The acceptability of a material from a technical or physical standpoint, e.g., color quality, quality of raw materials such as film stock, cover stock.

03. 04 01 02 01 06 Learner Performance Gains

The demonstrated gains in learning achieved by the learner after exposure to the material.

03. 04

EVALUATION—Continued

03. 04 01

Aspects of Items Under Evaluation—Continued

03. 04 01 02

Aspects of Learning Resources—Continued

03. 04 01 02 01

Aspects of Materials—Continued

03. 04 01 02 01 07

Compatibility with Learner

The suitability of the material itself (not the content or technique) for a specified learner or homogeneous group of learners. (See 03.0401020503 for the compatibility of the content with the learner.)

03. 04 01 02 01 08

Compatibility with Learning Objectives

The suitability of the material itself in terms of a specified learning objective or list of objectives.

03. 04 01 02 01 09

Compatibility with Other Learning Resources

The suitability of the material as it relates to other learning resources.

03. 04 01 02 01 10

Availability of Needed Devices

The availability of any devices which might be needed to use the material such as a tape recorder to play back an audiotape.

03. 04 01 02 01 99

Other Aspects of Materials

Any aspects or features of materials under evaluation not listed and defined above.

03. 04 01 02 02

Aspects of Devices

The particular aspect or feature of the device which is to be evaluated.

03. 04 01 02 02 01

Cost of Access

The total expenditure of funds for obtaining and installing the device. Includes such costs as cost of purchase, cost of rental or lease, cost of production or fabrication, cost of installation.

03. 04 01 02 02 02

Cost of Maintenance

The total expenditure of funds for the maintenance of the device. Costs may be averaged for like or similar devices.

03. 04 01 02 02 03

Cost of Operation

The total expenditure of funds for actually operating the device. Does *not* include maintenance or staff costs.

03. 04 01 02 02 04

Ease of Operation

The ease and facility with which a learner, teacher, or other staff member can, without extensive training, operate the device. The measurement may be in terms of training time.

03. 04 01 02 02 05

Use Life

The maximum amount of time or number of times a device may be used (under average conditions) before deterioration past the point of successful or cost-effective repair.

03. 04 01 02 02 06

Tamper Resistance

The resistance of a device to tampering or to vandalism.

03. 04 01 02 02 07

Frequency of Repair

The number of occasions within a specified period of time that a device requires repair or service, or the amount of time between repairs.

03. 04 01 02 02 08

Time for Repair

The length of time (total number of days or hours) during which the device is out of service awaiting repair or maintenance and being repaired or maintained.

03. 04 01 02 02 09

Ease of Repair

The ease with which repairs can be made to a device.

03. 04 01 02 02 10

Availability of Repair Service

The availability of qualified repair service.

03. 04 01 02 02 11

Availability of Replacement Parts

The availability of parts needed to repair and/or maintain a device.

03. 04 01 02 02 12

Obsolescence

The length of time before the device becomes obsolete.

03. 04 01 02 02 13

Portability

The ease with which the device is moved and its resistance to damage when being transported.

03. 04 01 02 02 14

Safety of Use

The degree of acceptability in relation to the number and nature of safety features.

03. 04 **EVALUATION—Continued**
03. 04 01 **Aspects of Items Under Evaluation—Continued**
03. 04 01 02 ***Aspects of Learning Resources—Continued***
03. 04 01 02 02 **Aspects of Devices—Continued**
03. 04 01 02 02 15 **Availability of Materials for Devices**
- The availability or accessibility of instructional materials for display by the device under evaluation. The materials may be either commercially produced or institutionally produced.
03. 04 01 02 02 16 **Compatibility with Other Learning Resources**
- The suitability of the device as it relates to other learning resources.
03. 04 01 02 02 99 **Other Aspects of Devices**
- Any aspects or features of devices under evaluation not listed and defined above.
03. 04 01 02 03 **Aspects of Techniques**
- The particular aspect or feature of the technique which is to be evaluated.
03. 04 01 02 03 01 **Compatibility with Learner**
- The suitability of the technique for a specified learner or homogeneous group of learners.
03. 04 01 02 03 02 **Compatibility with Learning Objectives**
- The suitability of the technique in terms of a specified learning objective or set of objectives.
03. 04 01 02 03 03 **Compatibility with Other Learning Resources**
- The suitability of the technique as it relates to other learning resources.
03. 04 01 02 03 99 **Other Aspects of Techniques**
- Any aspects or features of techniques not listed and defined above.
03. 04 01 02 04 **Aspects of Settings**
- The particular aspect or feature of the setting which is to be evaluated.
03. 04 01 02 04 01 **Cost of Access**
- The total expenditure of funds for obtaining or using the setting. Includes such costs as cost of purchase, cost of rental or lease, cost of rights to use.

03. 04 01 02 04 02

Cost of Maintenance

The total expenditure of funds for maintaining the setting.

03. 04 01 02 04 03

Occupant Safety

The acceptability of the setting as related to codes and standards for safety of occupants.

03. 04 01 02 04 04

Building Codes

The acceptability of the setting as related to the local, State, and national building codes.

03. 04 01 02 04 05

Lighting

The acceptability of the setting as related to any special area lighting or darkening needed for the display or production of materials.

03. 04 01 02 04 06

Electric Power

The acceptability of the setting as related to any special electrical power requirements created by the use of devices.

03. 04 01 02 04 07

Acoustics

The acceptability of the setting as related to any special acoustical treatment such as soundproofing, sound-enhancing.

03. 04 01 02 04 08

Provision of Electronic Delivery

The acceptability of the setting as related to any special wiring, cables, terminals, or other hardware for electronic delivery such as radio, television, public address or intercommunications, computer-assisted instruction, teletype, telelecture.

03. 04 01 02 04 09

Compatibility with Learner

The suitability of the setting for a specified learner or homogeneous group of learners.

03. 04 01 02 04 10

Compatibility with Other Learning Resources

The suitability of the setting as it relates to other learning resources.

03. 04 01 02 04 99

Other Aspects of Settings

Any aspects or features of settings not listed and defined above.

03. 04 01 02 05

Aspects of Content

The particular aspect or feature of the content which is to be evaluated.

03. 04

EVALUATION—Continued

03. 04 01

Aspects of Items Under Evaluation—Continued

03. 04 01 02

Aspects of Devices—Continued

03. 04 01 02 05

Aspects of Content—Continued

03. 04 01 02 05 01

Accuracy of Content

The acceptability of content in terms of internal validity and congruence to reality.

03. 04 01 02 05 02

Social Acceptance of Content

The acceptability of content in terms of societal norms, either local, regional, or national. Includes religious and aesthetic values.

03. 04 01 02 05 03

Compatibility with Learner

The acceptability of content in terms of a specified learner or homogeneous group of learners.

03. 04 01 02 05 04

Compatibility with Other Learning Resources

The suitability of the content as it relates to other learning resources.

03. 04 01 02 05 99

Other Aspects of Content

Any aspects or features of content not listed and defined above.

03. 04 01 02 99

Other Aspects of Learning Resources

Any aspects or features of learning resources not listed and defined above.

03. 04 01 03

Aspects of a Unit of Instruction

The particular aspect or feature of the unit of instruction which is to be evaluated.

03. 04 01 03 01

Compatibility with Learner

The suitability of the unit of instruction for a specified learner or homogeneous group of learners.

03. 04 01 03 02

Compatibility with Other Units of Instruction

The suitability of the unit as it relates to other units of instruction offered by the educational institution or organization.

03. 04 01 03 03

Social Acceptance of Unit of Instruction

The acceptability of the unit of instruction to the general community which

the program and educational institution offering it serve. Includes acceptability of religious, aesthetic, moral, and professional bases.

03. 04 01 03 04

Compatibility of Unit of Instruction with Institution

The suitability of the unit of instruction as it relates to the general policies and practices of the educational institution or organization conducting the unit.

03. 04 01 03 99

Other Aspects of Units of Instruction

Any aspect or feature of the units of instruction not listed and defined above.

03. 04 01 99

Other Aspects of Items Under Evaluation

Any aspects or features of items under evaluation.

03. 04 02

Purposes of Evaluation

The principal purpose or reason for which the evaluation is conducted.

03. 04 02 01

Evaluation for Revision

The evaluation conducted to make revisions or modifications to a learning resource or unit of instruction program. (Sometimes referred to as a form of Formative Evaluation.)

03. 04 02 02

Evaluation for Acquisition or Adoption

The evaluation conducted to determine whether or not to acquire, adopt, or utilize a learning resource or unit of instruction program.

03. 04 02 03

Evaluation for Continued Use

The evaluation conducted to determine whether or not the use of a learning resource or unit of instruction should be continued.

03. 04 02 04

Evaluation for Cost Effectiveness

The evaluation conducted to determine the cost effectiveness of a learning resource or unit of instruction.

03. 04 02 05

Evaluation for Cost Benefit

The evaluation conducted to determine the cost benefit(s) of a learning resource or unit of instruction.

03. 04 02 99

Other Purposes for Evaluation

Any purposes for evaluation not listed and defined above.

03. 04 03

Stages of Evaluation in Development of (Instructional) Materials

The principal stages involved in testing, trying out, and revising instructional materials during their development.

03. 04

EVALUATION—Continued

03. 04 03

Stages of Evaluation in Development of (Instructional) Materials—Continued

03. 04 03 01

Developmental Testing

The initial stage in which the material is tried out with individuals and small groups of learners to locate portions of the instructional materials that need to be revised.

03. 04 03 02

Field Testing

The testing of a near-final model of an instructional material in an appropriate situation, according to specified criteria, for the purpose of determining what further modifications are necessary.

03. 04 03 03

Validation Testing

The stage of testing concerned with determining the exact performance characteristics of the material in specific instructional situations and with certain groups of learners.

03. 04 03 99

Other Stages of Evaluation in the Development of Instructional Materials

Any stages of evaluation in the development of instructional materials not listed and defined above.

03. 04 04

Sources of Evaluation

The types of sources from which data or information to be used in evaluation can be drawn.

03. 04 04 01

Expert Opinion

The opinions, impressions, or judgments of individuals considered to be well qualified in relation to the item under evaluation.

03. 04 04 02

Literature Review

A survey or review of the literature or published information relating to the item under evaluation.

03. 04 04 03

User Survey

A survey or similar collection of information from users of the subject of the evaluation.

03. 04 04 04

Personal Observation

The observation or use by the evaluator of the subject of the evaluation.

03. 04 04 05

Controlled Testing

A controlled study to test or evaluate an item or subject.

03. 04 04 99

Other Sources of Evaluation

Any sources of data or information not listed and defined above.

03. 04 99

Other Evaluation

Any evaluation not listed and defined above.

DEFINITIONS OF CLASSIFIED TERMS ABOUT LOGISTICS**Code Series 03.05**

03. 05

LOGISTICS

The learning resources development function involved in the preparation of learning resources for instructional use. In this handbook, the emphasis is on the logistics function principally as it relates to materials and (somewhat) to devices, as well as (through electronic distribution) to content. Logistics includes the six major subcategories: acquisition, processing, housing, scheduling, distribution, and maintenance.

For further explanation of the logistics function and sources of related information, see "Classification of Terms about Logistics" on p. 45.

For user convenience, an overview of the terms and categories of the logistics function is found in the chart on p. 186.

03. 05 01

Acquisition of Learning Resources

The activities involved in obtaining selected learning resources, generally only materials and devices, for permanent or temporary inclusion in an institution's collection. Includes obtaining through purchase, production, loan, lease or rental and also for one-time or limited use within the instructional program of the institution.

03. 05 02

Processing of Learning Resources

The activities involved in the classifying and cataloging of selected learning resources, particularly materials, according to a systematic scheme used by the institution to organize its collection. Processing may take place within the institution or outside of it. Includes any physical preparation required before inclusion in the collection.

03. 05 03

Housing of Learning Resources

The activities involved in the housing or storing and subsequent retrieving of selected learning resources, particularly materials. Includes shelving, actual warehousing, and both long-term and short-term storage.

03. 05 04

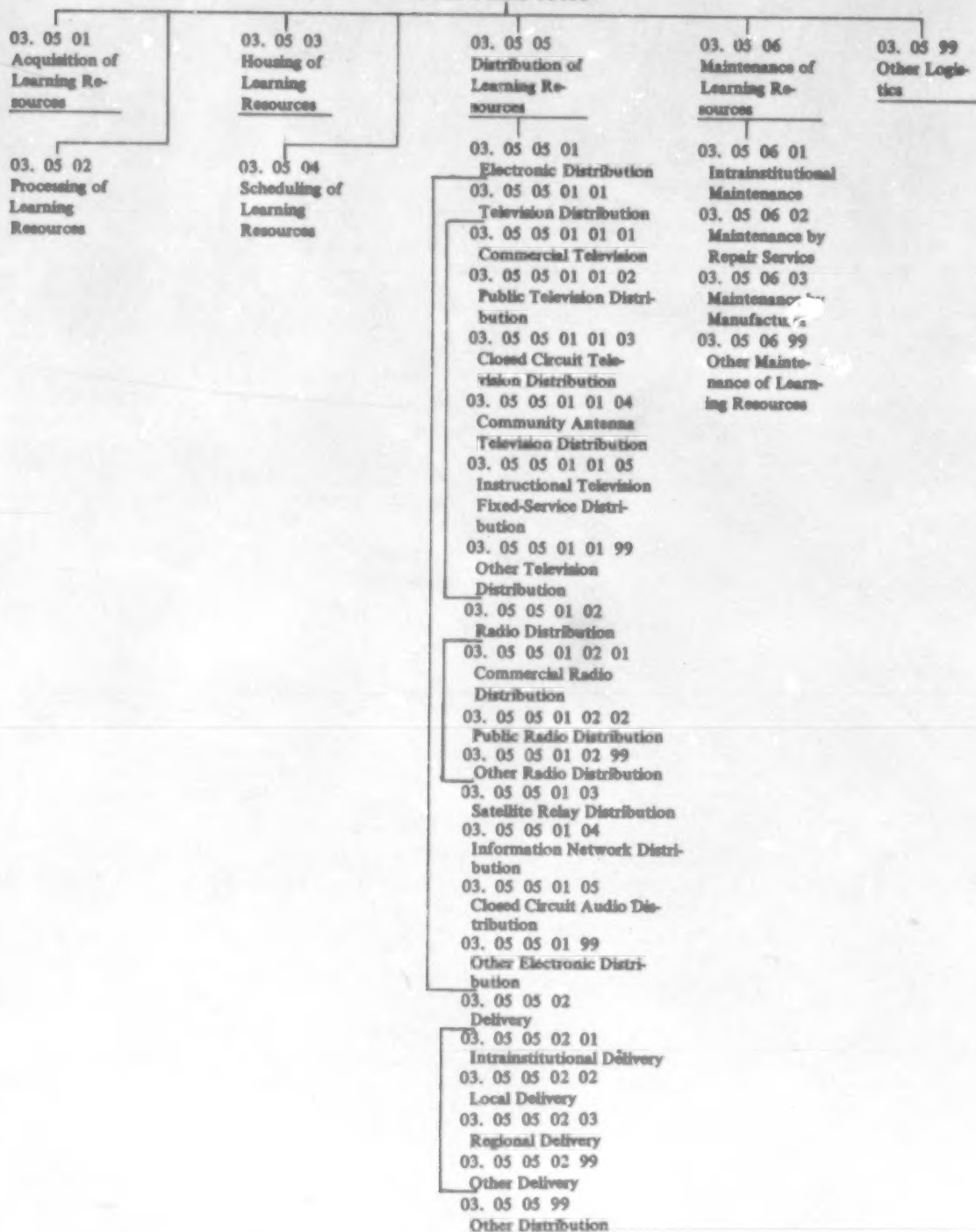
Scheduling of Learning Resources

The activities involved in the booking and scheduling of learning resources, particularly materials for use. Includes any recordkeeping (manual, mechanical, or electronic) needed either to schedule the item or to verify its return after use.

Overview of Terms

LOGISTICS

Code Series 03.05



03. 05

LOGISTICS—Continued

03. 05 05

Distribution of Learning Resources

The activities involved in circulating and/or distributing selected learning resources, particularly materials, either through the actual physical distribution of the object itself or through the electronic distribution of the content of the message. Includes activities involved in the physical retrieval of the item after use.

03. 05 05 01

Electronic Distribution

The use of radio, television, information networks, and relay systems for the distribution of instruction and educational information.

03. 05 05 01 01

Television Distribution

The use of television for the distribution of instruction and educational information.

03. 05 05 01 01 01

Commercial Television Distribution

The distribution of instruction and educational information by a broadcast television station, usually privately owned, which is operated for profit. Such stations accept paid advertising.

03. 05 05 01 01 02

Public Television Distribution

The distribution of instruction and educational information by a noncommercial broadcast television station which is publicly owned and operated.

03. 05 05 01 01 03

Closed-Circuit Television Distribution

The distribution of instruction and educational information through a television system which distributes signals only to those receivers which are directly connected to the origination point by cable or special microwave relay. Closed circuit television is usually limited to a single area, building, site, or campus. Does *not* include Community Antenna Television Distribution (03.0505010104), or Instructional Television Fixed-Service Distribution (03.0505010105). (Also called CCTV.)

03. 05 05 01 01 04

Community Antenna Television Distribution

The distribution of instruction and educational information through a special form of closed circuit television which is linked by cable to homes, offices, institutions, and other locations (usually subscribers) in a community. In most cases, community antenna television is a distribution service, usually commercial, concerned with the delivery of a high-quality signal rather than with the programming which the system carries. The operator of a community antenna television system is required to provide free access to one channel for educational purposes. Does *not* include Closed Circuit Television Distribution (03.0505010103). Includes Community Antenna Relay System (CARS). (Also called Table Television, CATV.)

03. 05

LOGISTICS—Continued

03. 05 05

Distribution of Learning Resources—Continued

03. 05 05 01

Electronic Distribution—Continued

03. 05 05 01 01

Television Distribution—Continued

03. 05 05 01 01 05

Instructional Television Fixed-Service Distribution

The distribution of instruction and educational information through a fixed-station service utilizing the 2500 megahertz portion of the broadcast spectrum. The service is limited by the Federal Communications Commission to educational organizations transmitting education-related materials. (Also called 2500 Megahertz Service, ITFS.)

03. 05 05 01 01 99

Other Television Distribution

Any television distribution not listed and defined above.

03. 05 05 01 02

Radio Distribution

The use of radio for the distribution of instruction and educational information.

03. 05 05 01 02 01

Commercial Radio Distribution

The distribution of instruction and educational information by a broadcast radio station, usually privately owned, which is operated for profit. Such stations accept paid advertising.

03. 05 05 01 02 02

Public Radio Distribution

The distribution of instruction and educational messages by a noncommercial broadcast radio station which is publicly owned and operated.

03. 05 05 01 02 99

Other Radio Distribution

Any radio distribution not listed and defined above.

03. 05 05 01 03

Satellite Relay Distribution

The distribution of instruction and educational information using one or more of a series of orbiting, man-made satellites to receive, amplify, and retransmit signals, either radio or television, from and to specially adapted transmitters and receivers. (Also called Satellite Communication, Satellite Transmission.)

03. 05 05 01 04

Information Network Distribution

The distribution of instruction and educational information by cable and/or microwave link between two institutions or organizations. The transmission may take the form of radio, television, or computer data and there may be a computer or computer terminal at any point on the network or communications system. Input and output devices may take the form of teletypewriters or other computer input and output devices. Includes distribution of programs by dial-access and remote-access systems.

03. 05 05 01 05 Closed Circuit Audio Distribution

The distribution of audio-only instruction and educational information by cable or audio induction loop to a number of separate points or listeners.

03. 05 05 01 99 Other Electronic Distribution

Any electronic distribution not listed and defined above.

03. 05 05 02 *Delivery*

The distribution of the actual learning resource itself (as opposed to electronic distribution of the message or content) to users. Generally applies only to the delivery of materials and devices.

03. 05 05 02 01 Intrainstitutional Delivery

The delivery of selected learning resources within the institution itself. Usually limited to the deliveries at a single facility, site, or campus. If the delivery is to a number of scattered sites or locations, use Local Delivery (03.05050202). Intrainstitutional Delivery includes any pickup and return by the user.

03. 05 05 02 02 Local Delivery

The delivery service provided in a limited area (usually within a radius of a few miles) near the facility where the selected learning resources are stored.

03. 05 05 02 03 Regional Delivery

The delivery service provided for a large area surrounding the facility where the selected learning resources are stored (in some instances up to one hundred miles). The service may be commercial or operated by the institution and may have regularly scheduled deliveries.

03. 05 05 02 99 Other Delivery

Any delivery not listed and defined above.

03. 05 05 99 *Other Distribution*

Any distribution not listed and defined above.

03. 05 06 **Maintenance of Learning Resources**

The repair and upkeep of selected learning resources, usually only materials and devices, done to keep the items in usable condition. Includes periodic, routine, and preventive maintenance as well as major repair work. Maintenance may be performed within the institution or organization or by outside maintenance and repair services.

03. 05 06 01 *Intrainstitutional Maintenance*

The repair and/or maintenance performed by the staff of the institution or organization which owns or leases the materials or devices.

03. 05 **LOGISTICS—Continued**03. 05 06 **Maintenance of Learning Resources—Continued**03. 05 06 02 *Maintenance by Repair Service*

The repair and/or maintenance performed by an individual or organization other than the owner, the lessor, the manufacturer, or the manufacturer's designated representative. Includes service contracts covering a period of time and/or specific items as well as repairs done on an as-needed basis. Does *not* include repairs or maintenance done under manufacturer's warranty or guarantee (see *Maintenance by Manufacturer* (03.050603)).

03. 05 06 03 *Maintenance by Manufacturer*

The repair and/or maintenance performed by the manufacturer of the item or the manufacturer's authorized representative. Includes any maintenance and/or repairs done under manufacturer's warranty or guarantee.

03. 05 06 99 *Other Maintenance of Learning Resources*

Any maintenance of learning resources not listed and defined above.

03. 05 99 **Other Logistics**

Any logistics not listed and defined above.

DEFINITIONS OF CLASSIFIED TERMS ABOUT UTILIZATION**Code Series 03.06**03. 06 **UTILIZATION**

The learning resources development function concerned with the actual use of learning resources, either by the learner or the instructor, in an instructional situation. The utilization function deals especially with materials, usually after they are produced and made available. Activities in the utilization function set the structure of the actual interface between user and resource.

For more information about the utilization function, see "Classification of Terms About Utilization" on p. 46.

For user convenience, an overview of the terms and categories of the utilization function is found in the chart on p. 191.

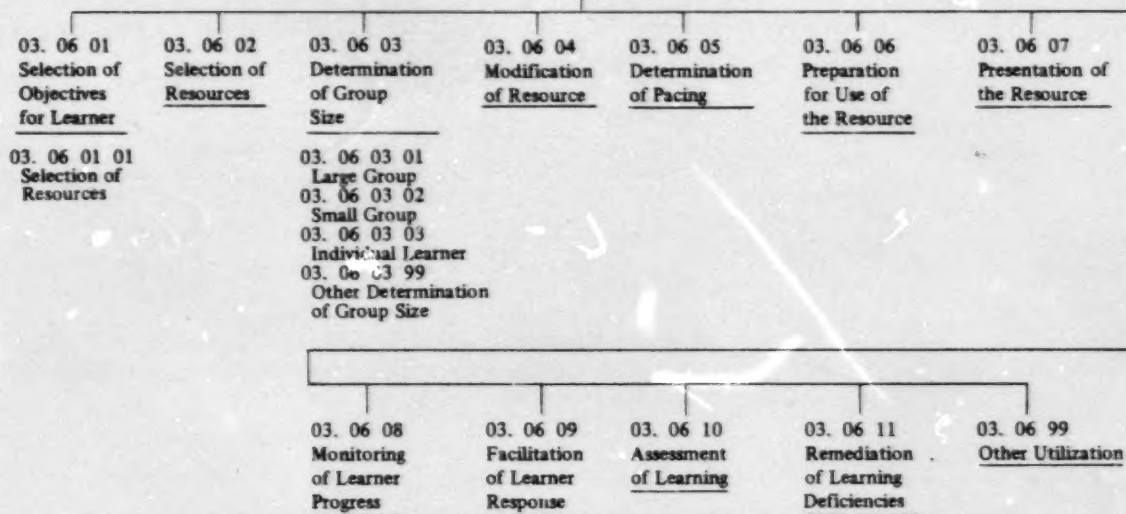
03. 06 01 **Selection of Objectives for Learner**

The activity of allowing the learner to choose, or choosing for the learner, those learning interests and instructional objectives the learner will pursue as they relate to the resources available.

03. 06 01 01 **Selection of Resources**

The activity of choosing those available resources which most closely meet the goals,

Overview of Terms
UTILIZATION
Code Series 03.06



03. 06

UTILIZATION—Continued

03. 06 02

Selection of Resources—Continued

needs, and task requirements of the instructional situation. Decisionmaking may involve the institution, instructor, learner, or any combination of the three.

03. 06 03

Determination of Group Size

The activity of deciding the group size for presentation of the resource. Sizes of presentation groups include large group, small group, and independent study. The choice of size may be influenced by learner characteristics, logistical considerations, and/or task demands.

03. 06 03 01

Large Group

The learners receive instruction as a group of usually 40 or more (and frequently in groups of 100-300).

03. 06 03 02

Small Group

The learners receive instruction in groups of 2-40, although preferable group size is 8-15.

03. 06 03 03

Individual Learner

The learner receives instruction individually through a variety of means and works independently.

03. 06 03 99

Other Determination of Group Size

Any determination of group size not listed and defined above.

03. 06 04

Modification of Resource

The activity of tailoring the resource to more specifically meet the goals, needs, learner characteristics, course orientation, or logistical demands of the instructional situation. Modification may promote better utilization as well as greater individualization of instruction. These modifications may be accomplished by changes in elements such as directions to the learner, learner activities, and learner reinforcement as well as by changes in utilization activities.

03. 06 05

Determination of Pacing

The activity of selecting the rate of presentation of instruction for the group as a whole or for individuals.

03. 06 06

Preparation for Use of the Resource

The activity of directing the student's attention to the goals and objectives of instruction, the procedures to be followed, and the particular skills and content to be highlighted.

03. 06 07 **Presentation of the Resource**
- The activity of bringing the learner into contact with the learning resource.
03. 06 08 **Monitoring of Learner Progress**
- The activity of following the progress of each learner as he moves through the sequence of instruction. As instruction becomes more individualized, and learners have more choice of objectives, resources, and rate of progress, this process becomes both more important and more difficult, often requiring sophisticated computer-managed systems.
03. 06 09 **Facilitation of Learner Response**
- The activity of eliciting learner response for the purpose of practice, group interaction, or diagnosis by means of techniques such as group discussion, question sessions, and practice frames.
03. 06 10 **Assessment of Learning**
- The activity of determining the areas of successful mastery by the learner and those needing further remediation. Such assessment may be either criterion-, domain-, or norm-referenced. Results from such measures may be used to diagnose strengths and weaknesses for future work and/or to report the assessment in a letter grade or narrative form.
03. 06 11 **Remediation of Learning Deficiencies**
- The activity of choosing and implementing further instruction (often in alternative formats) to help the learner reach mastery of the skills not learned in the previous unit of instruction.
03. 06 99 **Other Utilization**
- Any utilization activities not listed and defined above.

DEFINITIONS OF CLASSIFIED TERMS ABOUT INSTRUCTIONAL MANAGEMENT FUNCTIONS

Code Series 04.00

The functions in educational technology responsible for the coordination between all functions (six learning resource development functions and two instructional management functions) as well as for the planning and implementation of total programs and systems of instruction. Instructional management functions draw upon the field of general management to manage organizations and institutions involved in phases of educational technology.

For more information about the instructional management functions, see "Classification of Terms About Instructional Management Functions" on p. 47.

DEFINITIONS OF CLASSIFIED TERMS ABOUT ORGANIZATION MANAGEMENT

Code Series 04.01

04. 01

ORGANIZATION MANAGEMENT

The instructional management functions whose purpose is to coordinate and manage the activities of the learning resources development functions and instructional management functions. This includes the overall management of an instructional program and/or the management and operation of an organization or institution involved in some phase of educational technology. Organization management draws upon the field of general management and systems design and implementation.

For more information about organization management and its relationship to other functions and to educational technology, see "Classification of Terms About Organization Management" on p. 43.

For user convenience, an overview of the terms is found in the chart on p. 195.

04. 01 01

Development of Goals and Policies

The activities in the formulation of the goals and policies of the organization or institution. This category includes the general overall position and direction of the organization or institution and not particular objectives or specific operations. (The formulation of specific, explicit objectives and the development of programs to achieve them are recorded under *Implementation of Goals and Policies* (04.0102).)

04. 01 01 01

Development of Goals/Policies About Organization/Institutional Role(s) and Purpose(s)

The activities in the formulation of goals and policies which identify the broad mission and purpose of the organization/institution and its role in relation to instruction and to educational technology. (VII-M)

04. 01 01 02

Development of Goals/Policies About Instructional Programs

The activities in the formulation of goals and policies which identify the relationship of the organization/institution to specific instructional programs.

04. 01 01 03

Development of Goals/Policies About Units of Instruction

The activities in the formulation of goals and policies which identify the relationship of the organization/institution to specific units of instruction.

04. 01 01 04

Development of Goals/Policies About Learners

The activities in the formulation of goals and policies which identify the relationship of the organization/institution to specific learners.

04. 01 01 05

Development of Goals/Policies About Learning Resources

The activities in the formulation of goals and policies which identify the relationship of the organization/institution to learning resources.

Overview of Terms
ORGANIZATION MANAGEMENT
 Code Series 04.01

<u>04. 01 01</u> <u>Development of</u> <u>Goals and Policies</u>	<u>04. 01 02</u> <u>Implementation of</u> <u>Goals and Policies</u>	<u>04. 01 03</u> <u>Maintenance of</u> <u>Management Services</u>	<u>04. 01 04</u> <u>Coordination of Pro-</u> <u>grams and Activities</u>	<u>04. 01 99</u> <u>Other Organiza-</u> <u>tion Manage-</u> <u>ment</u>
04. 01 01 01 Development of Goals/Policies About Organiza- tional/Institutional Role(s) and Purpose(s)	04. 01 02 01 Planning for Implementation	04. 01 03 01 Information Services	04. 01 04 01 Internal Coordination	
04. 01 01 02 Develop- ment of Goals/Policies About Instruc- tional Programs	04. 01 02 02 Providing Infor- mation for Imple- mentation	04. 01 03 02 Fiscal Services	04. 01 04 02 Intraorganizational/ Interinstitutional Coordination	
04. 01 01 03 Development of Goals/Policies About Units of Instruction	04. 01 02 03 Application of Implementation	04. 01 03 03 Property Manage- ment Services	04. 01 04 99 Other Coordination of Programs and Activities	
04. 01 01 04 Development of Goals/Policies About Learners	04. 01 02 04 Assessment of Implementation	04. 01 03 04 Legal Services		
04. 01 01 05 Development of Goals/Policies About Learning Resources	04. 01 02 99 Other Implementa- tion of Goals and Policies	04. 01 03 05 Records Services		
04. 01 01 06 Development of Goals/Policies About Learning Resources Devel- opment Functions		04. 01 03 99 Other Maintenance of Management Services		
04. 01 01 07 Development of Goals/Policies About Instr. tional Management Functions				
04. 01 01 99 Other Develop- ment of Goals and Policies				

04. 01 ORGANIZATION MANAGEMENT—Continued**04. 01 01 Development of Goals and Policies—Continued****04. 01 01 06 *Development of Goals/Policies About Learning Resources Development Functions***

The activities in the formulation of goals and policies which identify the relationship of the organization/institution to learning resources development functions.

04. 01 01 07 *Development of Goals/Policies About Instructional Management Functions*

The activities in the formulation of goals and policies which identify the relationship of the organization/institution to instructional management functions.

04. 01 01 99 *Other Development of Goals and Policies*

Any development of goals and policies not listed and defined above.

04. 01 02 Implementation of Goals and Policies

The activities in carrying out, either directly or by delegated authority, those goals and policies which have been developed and adopted by the authority structure of the organization. (VII-M) Includes the translation of general goals into specific objectives and the necessary design and implementation of any operations or programs to achieve those objectives. There is a wide range of methods and models for implementation. The subcategories of implementation may be assigned different weights and a different sequence in different organizations/institutions.

04. 01 02 01 *Planning for Implementation*

The activities in design of the implementation program or operation. Includes selecting and/or identifying specific objectives from the goals; setting priorities; formulating various courses of action in terms of the objectives; determining relative costs or benefits of courses of action; and considering specific criteria for measurement of courses of action. (VII-M)

04. 01 02 02 *Providing Information for Implementation*

The activities in the systematic study and gathering of data to provide information for the planning and development of various courses of action in implementing the goals and policies of the organization/institution. Includes research and statistical operations and programs. (VII-M)

04. 01 02 03 *Application of Implementation*

The activities in the actual conduct of a program or operation to achieve the implementation objectives. Includes the allocation and distribution of resources—money, manpower, supplies, equipment, and information—to a chosen course of action. (VII-M)

04. 01 02 04 *Assessment of Implementation*

The activities in ascertaining or judging the value or success of the result or

outcome of the chosen course of action by careful appraisal of previously specified criteria. Assessment may take place during the implementation (to provide information about needed changes) as well as at the end of the course of action (to provide a final overall assessment). Assessment during the process is often called "formative;" assessment after the process is often called "summative."

04. 01 02 99

Other Implementation of Goals and Policies

Any implementation of goals and policies not listed and defined above.

04. 01 03

Maintenance of Management Services

The activities related to maintaining services for general management of the functional units and personnel within the organization. (VII-M)

04. 01 03 01

Information Services

The activities related to disseminating general and administrative information (not instruction) within the organization as well as to other organizations and to the public. (VII-M)

04. 01 03 02

Fiscal Services

The activities related to the financial and business operations of the organization. Include accounting, audit, budget, mail control, payroll, and purchasing services. (VII)

04. 01 03 03

Property Management Services

The activities related to the organization-wide (or institution-wide) acquisition, distribution, and maintenance of property and general supplies within the organization. They include inventory control and the establishment and maintenance of a property accounting system. (VII-M) (Do *not* include any activities relating to the **LOGISTICS** (03.05), here.)

04. 01 03 04

Legal Services

The activities related to legal counsel and services to determine the legal relationship between the organization/institution, its staff, and its clients. (VII-M)

04. 01 03 05

Records Services

The activities related to providing and maintaining information regarding (1) the internal operations of the organization, (2) the organization's activities in any of the instructional development functions. (Records management related to personnel is found in the personnel management section as **Personnel Accounting** (04.0204). Do *not* include Personnel Accounting activities here.)

04. 01 03 99

Other Maintenance of Management Services

Any maintenance of management services not listed and defined above.

04. 01 ORGANIZATION MANAGEMENT—Continued

04. 01 04 Coordination of Programs and Activities

The activities in coordinating the various programs and activities in the learning resources development functions and instructional management functions to avoid duplication of effort and waste of resources. Include both internal coordination and coordination with other organizations and institutions.

04. 01 04 01 *Internal Coordination*

The activities in establishing and maintaining communication channels and cooperation among the operational units within the organization. (VII-M)

04. 01 04 02 *Interorganizational/Interinstitutional Coordination*

The activities in establishing and maintaining relationships with external organizations, agencies, institutions, and groups. Include any continuing relationships and formal agreements as well as *ad hoc* relationships or task forces.

04. 01 04 99 *Other Coordination of Programs and Activities*

Any coordination of programs and activities not listed and defined above.

04. 01 99 Other Organization Management

Any organization management not listed and defined above.

DEFINITIONS OF CLASSIFIED TERMS ABOUT PERSONNEL MANAGEMENT

Code Series 04.02

04. 02 PERSONNEL MANAGEMENT

The instructional management function whose purpose is the coordination, supervision, and development of staff members performing activities in any of the six learning resources development functions and/or the two instructional management functions or working in an instructional organization or institution.

For more information about the personnel management function and its relationship to other functions and to other sources of personnel information, see "Classification of Terms about Personnel Management" on p. 49.

For user convenience, an overview of the terms and categories of the personnel management function is found on the chart on p. 199.

04. 02 01 Personnel Employment

The activities of the organization or institution involved in the recruitment and selection as well as the separation of staff members.

Overview of Terms
PERSONNEL MANAGEMENT
Code Series 04.02

04. 02 01 Personnel Employment	04. 02 02 Personnel Placement	04. 02 03 Personnel Development	04. 02 04 Personnel Accounting	04. 02 99 Other Personnel Management
04. 02 01 01 Personnel Recruitment		04. 02 03 01 Preservice Training/ Orientation	04. 02 04 01 Personnel Personal and Health Information Accounting	04. 02 04 06 Personnel Conditions of Current Assignment Accounting
04. 02 01 02 Personnel Selection		04. 02 03 02 Inservice Training	04. 02 04 02 Personnel Education and Experi- ence Accounting	04. 02 04 07 Personnel Current Employment Accounting
04. 02 01 03 Personnel Separation		04. 02 03 99 Other Person- nel Development	04. 02 04 03 Personnel Job Classification and Activity Assignment Accounting	04. 02 04 08 Personnel Career Development Assignment Accounting
04. 02 01 99 Other Person- nel Employment			04. 02 04 04 Personnel Function and Program Assignment Accounting	04. 02 04 09 Personnel Separation Accounting
			04. 02 04 05 Personnel Subject- Matter Area Accounting	04. 02 04 99 Other Personnel Accounting

04. 02 PERSONNEL MANAGEMENT—Continued

04. 02 01 Personnel Employment—Continued

04. 02 01 01 Personnel Recruitment

The activities in the identification of organizational or institutional needs for additional staff and in the efforts to publicize these openings to potentially qualified candidates.

04. 02 01 02 Personnel Selection

The activities involved in the interviewing and hiring of staff members, subject to local, State, and Federal regulations.

04. 02 01 03 Personnel Separation

The activities involved in the severance of the employment relationship between the staff member and his employer. Separation, especially involuntary, may be subject to State, Federal, and local regulations as well as to procedures specified by contract. (IVR-M)

04. 02 01 99 Other Personnel Employment

Any personnel employment not listed and defined above.

04. 02 02 Personnel Placement

The activities involved in the assignment of staff members to specific area(s) of responsibility; includes decisions regarding evaluation, transfer, and promotion. Specific criteria for the placement and assignment of personnel are left to State and local discretion within existing laws and contracts.

04. 02 03 Personnel Development

The activities in developing and/or conducting a program of systematized activities presented or directed by the staff member's employer that contributes to the professional or occupational growth and competencies of the staff member during his time of service. (IVR-M)

04. 02 03 01 Preservice Training/Orientation

The personnel development activities which are carried out after hiring but prior to or immediately after assignment.

04. 02 03 02 Inservice Training

The activities involved in any study or training program sponsored by the staff member's employer and which is started after the staff member's assignment and completed during the staff member's period of assignment. Includes on-the-job training, traineeships, internships, fellowships, institutes, workshops, conferences, and special courses. Does not include *Preservice Orientation or Training* (04.020301). (IVR-M) (Also called Inservice Education.)

04. 02 03 99

Other Personnel Development

Any personnel development not listed and defined above.

04. 02 04

Personnel Accounting

The activities involved in maintaining systematic records of pertinent information about staff members. For more detailed information about the following subcategories, see Handbook IV, Revised, *Staff Accounting: Classifications and Standard Terminology for Local and State School Systems*.

04. 02 04 01

Personnel Personal and Health Information Accounting

The activities in maintaining personal and health data which serve to identify the staff member and provide information on his health, marital status, and dependents. (IVR-M)

04. 02 04 02

Personnel Education and Experience Accounting

The activities in maintaining data on the staff member's general educational background, qualifications, and experience or employment. (IVR-M)

04. 02 04 03

Personnel Job Classification and Activity Assignment Accounting

The activities in maintaining data which group into general categories the kinds of work that staff members perform and divide these categories (or classifications) into activity assignments describing the major activities of each position. (IVR-M) (See STAFF (02.06) for a listing of assignments which relate to instruction.)

04. 02 04 04

Personnel Function and Program Assignment Accounting

The activities in maintaining data on the nature of the function and program or support services to which the staff member is assigned. (IVR-M)

04. 02 04 05

Personnel Subject-Matter Area Accounting

The activities in maintaining the data which identify the subject-matter areas in which staff members with assignments related to content or subject matter work. (IVR-M) (See CONTENT (02.05) for a listing of major subject-matter areas.)

04. 02 04 06

Personnel Conditions of Current Assignment Accounting

The activity of maintaining data which relate each current assignment of the staff member with other organizational elements such as the scope and timing of the assignment and its location and schedule. (IVR-M)

04. 02 04 07

Personnel Current Employment Accounting

The activity of maintaining employment data which include material on the staff member's contractual status with the institution or organization as well as personnel data or participation in insurance and retirement programs, current leave status, and salary. (IVR-M)

04. 02

PERSONNEL MANAGEMENT—Continued

04. 02 04

Personnel Accounting—Continued

04. 02 04 08

Personnel Career Development Accounting

The activity of maintaining data which relate to the staff member's performance and growth in his current assignment. (IVR-M)

04. 02 04 09

Personnel Separation Accounting

The activity of maintaining data which involve the severance of the employment between the staff member and the institution or organization. (IVR)

04. 02 04 99

Other Personnel Accounting

Any personnel accounting not listed and defined above.

04. 02 99

Other Personnel Management

Any personnel management not listed and defined above.

Chapter 5

UNITS OF MEASURE

Many of the reasons given for the use of standardized terms, categories, and definitions—items of information—also support the use of some standard units of measure for those items of information. In order for the data collected to be easily compared and pooled with other data, similar (if not identical) units of measure must be used. For example, two different institutions may agree on the definition for specific buildings about which each will collect data. However, if the first one reports the data in terms of cubic meters and the second in terms of square feet, the data are difficult to compare—for two reasons. First, each measured something different—volume and then area. Second, each used a different system of units of measure—metric, and then English system. While there are conversion tables between similar measures which use different systems (e.g., English vs. metric) of measure, there is no easy conversion between different units of measure (area vs. volume).

Using a variation of the example above, one institution might have measured the floor space of the facility while the second institution might have measured the number of manhours of people using the building (i.e., the number of hours in a given time period during which learners and staff used the building). Both approaches could be considered valid, legitimate measures relating to the building, *assuming* that the person collecting the data had good and sufficient reasons for using one measure instead of the other. The foregoing example leads to a number of conclusions.

First, there may be more than one unit of measure or system of measure for the same item of information. A library, for example, may count the number of volumes it holds or the number of different titles it has. Two copies of the same book yield a different count, depending on the unit of measure—two *volumes* but only *one* title. Each unit of measure (or system of measures) has its own particular utility and function.

Second, the purpose of the data collection strongly influences the units of measure to be used in the data collection. Using the foregoing example of title vs. volume: if the intent is to discover the number of *different* books available, title may be the appropriate

unit of measure; if the intent is to discover the total number of books held, volume may be a more appropriate unit of measure. Not only purpose but the way in which the data will be manipulated strongly influences the units of measure used.

Third, some units of measure relate physically or directly to the item measured while others are secondary or indirect measures. Using the example of a book: it may be counted as an item itself—a direct measure, whether counted by title or volume. It may also be measured using the cost of acquisition. The unit of measure then is money—not an inherent quality of the book but a unit of measure which may be applied to the book as well as to other items. Recalling the earlier example of measuring the facility or building: the volume or area of the building is a direct measure of the building; measuring the building by the number of manhours used is a secondary measure. It is important to distinguish between direct (primary) units of measure and indirect (secondary) units of measure.

This handbook will suggest both commonly used primary units of measure and secondary units of measure, emphasizing the former. Secondary units do, however, have an importance all their own. They often provide the common denominator for measuring different items. For example, comparisons between staff and facilities using direct units of measure are difficult, but the problem is often solved by using a common indirect unit of measure—cost in dollars.

Fourth, units of measure may be combined, especially in the aggregate to yield new units of measure. The term “manhour” is one such example. The manhour is now considered a common unit of measure of work or effort. It is, however, actually two units of measure—for two items (a person and time)—combined and used as a *single* unit of measure. This combination/reduction process often facilitates rapid, general comparisons among items—such as comparing schools by using average daily membership (ADM) or average daily attendance (ADA).

In the rest of this chapter, each major classification (learner, learning resources, learning resources development functions, instructional management functions)

of educational technology will be considered and units of measure suggested for selected terms and categories in each major classification. The suggested units of measure will be followed by some examples of comparison of items to yield ratios of comparative measures. Since the number of possible comparisons is almost unlimited (at least in theory) and since such comparisons depend on the purpose of the data collection, only a few examples are used to give an idea of the possible combinations.

These suggested units of measure and comparative measures are followed by some brief comments on using the terms, definitions, and categories, and units of measure in this handbook for collecting data and some comments on the nature of data collection in educational technology.

A final suggestion: just as other NCES handbooks (especially those in the State Educational Records and Reports Series) have more exhaustive and detailed lists of terms and definitions in particular areas, some also have more detailed information on the units of measure which relate to that area. These handbooks should be consulted if more information is needed.

LEARNER

The learner—also referred to as pupil or student—is the subject of Handbook VR, *Student/Pupil Accounting*.¹ The learner can be directly measured as a single unit or in groups. Learner attributes as listed in Handbook VR also lend themselves to direct measurement. Such measures may be expressed in direct numbers (e.g., total number of students enrolled in a course) or in percentages (e.g., percentage of students enrolled in a course). Time spent in learning activities is another measure of the learner. This may be especially relevant where the learning time is apportioned to various learning settings (e.g., the classroom, the library).

Quite often the learner is used as a measure to relate to other measures, such as numbers of books per student, amount of dollars expended per student, number of square feet of instructional space per student, or number of students per television broadcast. The learner is probably the most commonly used referent since he is designated as the direct recipient of instructional service.

¹ Putnam, John F., *Student/Pupil Accounting: Standard Terminology and Guide For Managing Student Data in Elementary and Secondary Schools, Community/Junior Colleges, and Adult Education*.

LEARNING RESOURCES

Each category of learning resources differs and not all are amenable to direct measure, especially techniques. (Comments on each learning resource are followed by suggested measures for the learning resource.)

Learning Resources—Materials

Materials generally included in educational media collections are amenable to direct item count. Some items, e.g., slides, are generally found in sets, and the sets are the suggested measures rather than the individual items. The materials counted may be directly related to the learner(s). Recorded materials may also be related to a subject or message. Materials may be related to a particular organizational structure or facility. An example of some possible breakdowns follows.

Total number of filmstrips titles/prints	Filmstrips per student	Filmstrips per teach- ing station	Filmstrips per school media center	Film- strips on art

The choice of elements for a ratio (units of material/selected variable) depends on the purpose of the comparison. The number of titles in relation to the number of copies may be an important measure of utilization practices. For example, if a school has but a single print of each filmstrip title, only one teacher or group of students will be able to use the title at a given time. If the school uses individualized instruction calling for simultaneous individual use of materials, it might be better to provide more copies per title but fewer titles.

A purchase cost may also be used as a secondary measure of materials; for example, the cost of filmstrips/pupil or cost of filmstrips/teaching station. Other units of measure for materials include running or viewing time, reel size, and active subscriptions. The materials listed below are selected from the sections on terms and definitions for **MATERIALS** (02.01).

Materials Measures

Units of measure include: number of items or sets, number of titles of items or titles of sets, and others, such as length or running time (where applicable/indicated). Each item of recorded material is listed

separately for user convenience since the evaluation of media programs is often based on media collections.

The list of items parallels the classification scheme for materials found on pp. 17-20.

Recorded materials

<u>Item of materials</u>	<u>Number of physical units</u>	<u>Number of bibliographic units</u>	<u>Other possible measures or qualifiers</u>
Audio-card	items or sets	titles	
Audiocassette	items	titles	length in minutes
Audiotape	items	titles	length in minutes; feet
Dictation/ Transcription Belts	sets	titles	length in minutes
Talking Book	items	titles	length in minutes
Computer Card, Punched	sets, decks	titles	
Computer Printout	items	titles	pages
Computer Program	items	titles	length
Computer Magnetic Tape, Recorded	items	titles	feet
Videotape Reel	items	titles	feet; length in minutes
Videocassette	items	titles	length in minutes
Videocassette	items	titles	length in minutes
Videocassette	items	titles	length in minutes
Videodisc	items	titles	length in minutes
Microfiche or Ultrafiche	fiche	titles	items; volume equivalents
Microfilm	reels	titles	
Micro-opaque	items	titles	
Microscope Slides	sets	titles	
Filmstrips, Sound or silent	items	titles	sets
Slide	sets	titles	items
Slide/Audiotape	items	titles	
Audioslide	sets	titles	items
Overhead Transparency	items or sets	titles	
Stereograph	sets	titles	items
Hologram	items	titles	sets
Motion Picture	items	titles	feet; length in minutes

Recorded materials—Continued

Item of materials	Number of physical units	Number of bibliographic units	Other possible measures or qualifiers
Book	volumes	titles	items
Chart	items	titles	sets
Map	items	titles	sets
Art Print	items	titles	
Study Print	items	titles	sets
Serial	volumes	titles	do not count single issues; active subscriptions
Periodical	volumes	titles	active subscriptions
Diorama	items	titles	space in cubic meters or feet
Exhibit	items	titles	space in cubic meters or feet
Game	items	titles	
Mock-up	items	titles	
Model	items	titles	
Realia	items or sets	titles	
Simulation			
Material	items or sets	titles	
Educational Toy	items	titles	

The same measures apply to supplies except that bibliographic units are not applicable for photographic supply items. Unexposed film is counted in "rolls" and photographic paper in "boxes" or sheets. For many supplies, a general cost figure is used as a measure, although, at times, individual items may be counted.

Examples of Comparative Measures for Materials

Items (or sets) of material per pupil
Pupils per items
Units per 1,000 students in average daily membership
Spirit duplication supply costs per teaching station
Supply costs per school/institution
Motion picture titles per district
Motion pictures per district

Learning Resources—Devices

Devices, like materials, are amenable to direct item count. The total number of devices per organization is usually far less than the number of material items per

organization since one device may display or reproduce a large number of materials. As with materials, devices may be directly related to learners (especially where simultaneous or individualized use of devices is practiced) and/or organizational patterns such as teaching stations, schools, and districts.

Devices Measures

The only direct unit of measure suggested is item count. Purchase cost may also be used, but other related costs (e.g., maintenance, transportation) should be related to the appropriate learning resource development function. Technical measures—wattage, core storage capacity (for computers)—may be used where needed.

Examples of Comparative Measures

Pupils per device
Devices per 1,000 students in average daily membership

Screens per teaching station
Slide projectors per school/institution
Offset presses per district
Percentage of schools having antenna systems
Number of elementary schools having 8mm motion picture cameras

Learning Resources—Techniques

Techniques are less amenable to quantification than materials or devices. Secondary measures such as the number of students involved in computer-assisted instruction, number of hours of televised instruction, and the number of courses using seminars are often used.

Techniques Measures

General measures include: number of course hours/minutes (student-contact hours/minutes) incorporating a specific technique. In the case of measuring techniques, cost is a questionable criterion since many of the costs are inherent to the materials used, the cost of development, or the costs of staff and facilities.

Examples of Comparative Measures

Number of facilities where specific technique(s) can be used
Percentage of materials incorporating specific technique(s)
Open classrooms used in specified grade level
Number of learners using programmed texts

Learning Resources—Settings

Settings lend themselves readily to direct measurement, especially direct item count such as number of media centers, number of junior high schools, number of gymnasiums. Two common direct measures are area or usable floor space expressed in square feet, yards, or meters and in pupil capacity. Pupil capacity is usually directly related to area and fixed by regulations regarding public buildings. Costs provide a reasonable secondary measurement as long as the \$/square foot (or other unit of area) measurement is used only in comparing similar spaces or buildings.

Settings Measures

Units of measure include: an item count of buildings and instructional spaces; area expressed in units of

area measure; pupil capacity per building or instructional space.

Examples of Comparative Measures

Percentage of schools having facilities for a setting-based technique
Number of schools having facilities for a setting-based technique
Percentage of schools having media-based instructional spaces
Number of courses using a shop
Number of rooms that have television reception
Students per learning resources area

Learning Resources—Content

Content, as a learning resource, is difficult to measure directly other than by a yes/no indicator. A secondary measure such as those used for techniques can be useful. A measure which relates content to units of time (student, faculty, or media time) is appropriate. Messages can be classified generally such as Art, or carried into detail such as Art History, Crafts, Textiles, or Architectural Design.

Content Measures

General measures include the number of student-contact hours related to a specific content area; number of specific materials (e.g., films) related to a specific content area. These measures are most often related to institutions or staff or learners.

Examples of Comparative Measures

Number or percentage of schools offering a given course
Number or percentage of schools offering a given program of studies
Pianos per music course
Books/Art History
Staff manhours/English

Learning Resources—Staff

Measurement is usually done in terms of manhours or full-time equivalency (FTE). For a staff member spending 50 percent of his time (in a 40-hour week) in a teaching assignment with students, the measure would be .50 FTE or 20 manhours.

Staff Measures

General measures; manhours or full-time equivalent. These measures may be related to areas of content, to number of students, or student-hours, and to number of total staff hours or FTE.

Examples of Comparative Measures

Pupil-teacher ratio
Pupil-classroom teacher ratio
Classroom teachers per 1,000 pupils in average daily membership
Teachers per 1,000 pupils in average daily membership
Number of class hours for a given course taught by teacher aides

LEARNING RESOURCES DEVELOPMENT FUNCTIONS

There are two basic ways of measuring functions. Either the elements within the function or the output or result of the function may be examined. The two are related and interdependent. The output, whether a physical product, data, or service, is generally considered to be the more important of the two. Though the output is not a direct measure of any of the elements within the function, it indicates how well the total function operates and how the elements interact to produce the expected result.

There are situations in which it is difficult to clearly measure output. In those cases, the elements of the function may be measured and used to predict the potential output of the function.

If all the necessary elements of the function are in good order, the probability is that the output can be produced. This type measurement is utilized in "soft product" areas in which the output can not be precisely specified. The measurement of Learning Resources Development Functions follows this approach.

Research

Money, manhours, and floor space or area are elements easily measured in any learning resource development function. The allotment of these gives an indication of an organization's involvement in the research function.

Research Measures

Units of measure suggested are fiscal allocation as measured in dollars, staff allocation as measured in manhours or FTE, and space allocation as measured in

square feet, yards, or meters. Other units of measure depend on specific circumstances.

Examples of Comparative Measures

Amount of institutional budget allocated to research
Percentage of institutional budget allocated to research
Percentage of computer time allocated to research data processing
Percentage of staff time per school, per district, per organization, allocated to research
Number of schools conducting research

Design

The same three elements—money, time, and area—can be used as measures of the design. Since materials design is a relatively new and expanding area, some attention to specific tasks within the design area may be desirable. FTE or manhours is an appropriate unit of measure.

Design Measures

Units of measure suggested are fiscal allocation as measured in dollars, staff allocation as measured in manhours or FTE, and space allocation as measured in square feet, yards, or meters.

Examples of Comparative Measures

Percentage of budget allocated to design
Number of staff performing design activities
Number of staff performing design for a given material or content
Number of individual schools with staff performing design activities
Amount of materials designed by the organization staff
Percentage of materials designed by the organization staff

Production

Production, like the other learning resources development functions, can be measured in terms of money, time, and space allocation. Most materials production, however, requires the use of specialized equipment and techniques.

Production is broken into six subcategories—graphics, audio/radio, still photography, motion pictures, television, and computer-assisted instruction. Each of these areas is further subdivided into activities,

supplies, equipment, and facilities. Units of measure vary with each of the subdivisions.

Production Measures

Suggested units of measure for the production function include fiscal allocation as measured in dollars, staff allocation as measured in manhours or FTE, and space allocation as measured in square feet, yards, or meters. The same measures are suggested for the six subcategories and the specific items within those areas. However, supplies and equipment necessary for production are amenable to a cumulative item count and special

facilities can either be counted by item or by square feet, yards, or meters. Graphically, the breakdown is:

Note: *The reader is directed to the Production Section (03.03) for a specific listing of activities, supplies, equipment, and facilities.*

Code for Chart: Yes/No Item indicates no cumulative quantitative measure. Item Count indicates cumulative measure. X = suggested unit of measure; ? = possible unit of measure but only recommended for special situations.

Examples of Comparative Measures

	Money	Staff time	Space	Yes/no item	Item count
Production Function	X	X	X	X	
Graphics Production	X	X	X	X	
Graphics Activities	X	X	X	X	
Graphics Supplies	X		?	?	X
Graphics Equipment	X		?	?	X
Graphics Facilities	X		X	X	
Audio/Radio Production	X	X	X	X	
Audio/Radio Production Activities	X	X	X	X	
Audio/Radio Supplies	X		?	?	X
Audio/Radio Equipment	X		?	?	X
Audio/Radio Facilities	X		X	X	X
Still Photo Production	X	X	X	X	
Still Photo Activities	X	X	X	X	
Still Photo Supplies	X		?	?	X
Still Photo Equipment	X		?	?	X
Still Photo Facilities	X		X	X	
Motion Picture Production	X	X	X	X	
Motion Picture Activities	X	X	X	X	
Motion Picture Supplies	X		?	?	X
Motion Picture Equipment	X		?	?	X
Motion Picture Facilities	X		X	X	
Television Production	X	X	X	X	
Television Activities	X	X	X	X	
Television Supplies	X		?	?	X
Television Equipment	X		?	?	X
Television Facilities	X		X	X	
CAI Production	X	X	X	X	
CAI Activities	X	X	X	X	
CAI Supplies	X		?	?	X
CAI Equipment	X		?	?	X
CAI Facilities	X		X	X	

Examples of Comparative Measures

Amount of budget allocated to specific type of production
Amount of budget allocated to total production

Percentage of budget allocated to television production

Percentage of budget allocated to graphic supplies
Number of schools having equipment for photographic production

Percentage of materials for a given course produced in a school

Evaluation

The three general measures—money, time, and area—can be used for the evaluation function.

Evaluation Measures

Suggested units of measure for the evaluation function include fiscal allocation as measured in dollars, staff allocation as measured in manhours or FTE, and space allocation as measured in square feet, yards, or meters.

Examples of Comparative Measures

- Amount of inservice time devoted to the evaluation of materials
- Amount of inservice time devoted to the evaluation of techniques
- Number of specific personnel who perform any evaluation tasks
- Percentage of time which staff in various job assignments devoted to evaluation tasks

Logistics

The three general elements used for the instructional development functions can also be used for the logistics function—money, manhours, and space. The logistics function is broken down into six subcategories—acquisition, processing, housing, scheduling, distribution, and maintenance. Not all of the three elements are equally important in each subcategory. For example, space is an important measure in the “housing” and of less importance in “acquisition.”

Logistics Measures

Suggested units of measure for all functions include fiscal allocation as measured in dollars, staff allocation as measured in manhours or FTE, and space allocation as measured in square feet, yards, or meters.

Examples of Comparative Measures

- Percentage of materials distributed per time unit (week, day, month)
- Number of materials acquired per time unit (week, month, year)
- Number of films processed per month

Total number of hours of instructional television broadcasting

Number of hours of television broadcasting for music
Amount of money spent for the maintenance of projectors.

Number of manhours spent in the delivery of filmstrips
Number of miles covered in the delivery of videotapes

Utilization

Utilization measures should reflect the learner/instructor use of resources. The three measures for the other development functions—money, time, and space—are also applicable here.

Utilization Measures

Suggested units of measure for the utilization function include fiscal allocation as measured in dollars and staff allocation as measured in manhours or FTE. Manhours may be applied to staff or learner. Space allocation as measured in square feet, yards, or meters may also be used.

Examples of Comparative Measures

- Percentage of courses with provision for learner assessment
- Number of manhours in selecting resources
- Time allotted to presentation of film
- Time allotted to preparation for use of instructional television

INSTRUCTIONAL MANAGEMENT FUNCTIONS

The instructional management functions provide the coordination of and overall direction for organizations or institutions. Measures of overall success and/or failure in the management area come from measures of the overall performance of the organization. Direct measures of management are difficult. The instructional management function is divided into two areas: 1) organization management which involves the determination of goals and their implementation; and 2) personnel management which centers on the supervision and coordination of staff members.

Organization Management

Direct measures of goal and policy setting are difficult to measure objectively other than to ascertain if there are goals and policies which have been set.

Budget, staff, and, to a lesser extent, working space do provide some secondary measures of effort.

Organization Management Measures

Suggested units of measure include fiscal allocation as measured in dollars and staff allocation as measured in manhours or FTE. Space allocation as measured in square feet, yards, or meters may also be used, but with caution.

Examples of Comparative Measures

Percentage of budget allotted to implementation of a specific, stated goal

Percentage of stated goals which have formal, written implementation plans, such as PPBES

Number of manhours allocated to accounting services

Amount of dollars allocated to mail services

Number of manhours allocated in relationships with other groups and organizations

Personnel Management

The focus of personnel management is the supervision and coordination of the personnel who perform development functions. Activities in this area include recruitment, selection, placement, training, evaluation, and personnel accounting. Measures differ within the personnel area according to the subdivision within that area. As with organization management, dollars and staff time remain a viable measure.

Personnel Management Measures

Suggested measures for personnel management include fiscal allocation as measured in dollars and staff allocation as measured in manhours or FTE. Space allocation as measured in square feet, yards, or meters may be used with caution.

Examples of Comparative Measures

Number of hours of inservice training planned for each school

Amount of money allocated for inservice training per school, per district

Number of hours of released time granted to professional assignments

Percentage of budget allocated to staff development

Amount of manhours allocated to the personnel recruitment

Percentage of personnel (all assignment levels) on whom termination of service records are maintained

A General Approach to Measurement in Educational Technology

For the best use of the taxonomy of educational technology and the items therein, three basic considerations are suggested.

First, select a discrete purpose (or purposes) for gathering the data. The purpose will give form to the areas in which data are gathered. Defining the purpose of the survey allows a clearer definition of the structure of the survey. This tends to eliminate the "shotgun" approach of asking everything.

Second, define the scope of the data-gathering effort. The scope, flowing from the purpose, gives the *specific* areas of investigation. The scope of the survey will usually either be broad—allowing general information about each area—or an in-depth look at a specific area. A third alternative is to trace one item as it relates to several areas. For example, someone interested in the technique of Televised Instruction (02.03020203), should also check Television Production (03.0305) and the use of Television Distribution (03.05050101).

Third, keep the focus of the data to be gathered on its relationship to instruction and instructional outcomes. The model of educational technology has instruction as its core. The further away from this central core that the information is gathered, the more difficult it is to establish the strength of the relationship of items of information.

Once the purpose and scope of the survey have been determined, the items to be surveyed and measured can be selected. A survey or questionnaire in educational technology can vary widely in scope and design depending upon the questions to be answered.

ASSESSING EDUCATIONAL TECHNOLOGY

As with any overall field, it is difficult to gather information on educational technology as a whole. Most information and data will be gathered on selected parts. Then, inferences will be drawn for the whole. This is common practice in any large-scale operation with a large number of variables. And, educational technology fits this description. One of the present problems is in determining its true size and scope. To some extent, this handbook will help by offering standardized terms and definitions which will make the aggregation of data about the parts easier.

A final note of caution: there is a temptation, inferred in the comments about primary and secondary measures on p. 203, to work only with primary, direct measures and to ignore indirect measures because of the difficulty in gathering the data as well as manipulating them. Yankelovich's comment about the "McNamara Fallacy" (as stated in *Supermoney*³) puts the matter in perspective:

The first step is to measure whatever can easily be measured. This is okay as far as it goes. The second step is to disregard that which can't be measured or give it an arbitrary quantitative value. This is artificial and misleading. The third step is to

presume what can't be measured easily really isn't very important. This is blindness. The fourth step is to say that what can't be easily measured really doesn't exist. This is suicide.

Thus, any involvement with the measurement of technology presumes (1) a continuing search for areas which are difficult to measure and which may escape casual examination and (2) attention to the interaction of components which may produce unanticipated results. A current problem (at this writing) is the rather complex relationship of ecology, power, and fuel sources. Adjustments in one area produce side results (apparently at an ever-increasing pace) in the other two. The lesson for those gathering information about educational technology should be quite evident.

³ Smith, Adam. *Supermoney*. New York: Random House, 1973.

GLOSSARY

This section contains definitions of selected terms used but not classified and defined elsewhere in this handbook, along with those additional terms which are considered helpful to an understanding of some aspect of educational technology. Terms located elsewhere in the handbook may be located through the use of the index or through the classifications in chapter 3.

The glossary is arranged alphabetically, and includes a limited amount of cross-referencing. When a glossary definition includes a reference to another glossary term, no page number is given. A page number is included, however, when a reference is made to a term in another section of the handbook. Multi worded terms are not inverted; groups of terms having common words may be located by using the index.

Many of the definitions used here have been taken directly from previous handbooks in the State Educational Records and Reports Series: Handbooks I, II, III, IV, V, VI, VII.¹ Those definitions derived from other handbooks are indicated by a Roman numeral designation at the end of the definition. When a definition has been modified for the purposes of this handbook, the handbook reference is given, e.g., I, II, III, IV, V, VI, VII, followed by the letter "M."

ACHIEVEMENT—Acquisition of skill or competence in a specified area.

AIDE—A person with few or no special skills who performs simple tasks usually under the supervision of a technician or specialist. An aide's tasks are specified in terms of a specific product and have clear directions or instructions for performance.

AMPLITUDE MODULATION—The system of radio transmission based on varying the amplitude of the power output while the frequency remains the same. (Also, called AM.)

APTITUDE—(1) The capacity for proficiency in a given area; (2) A group of attributes considered character-

istic of the individual's ability to acquire proficiency.

AUDIO COMPARATOR—A monophonic, dual-track audiotape recorder with provision for the user to record on one track and playback both tracks. It is used primarily in foreign language training so the learner can record his voice and then compare his language facility with the instructor's.

AUXILIARY METHOD—An approach to foreign language teaching that considers languages a set of habits that are mastered by repetition, drills, and overlearning. Listening and speaking are considered the central skills that are later followed by reading and writing.

AUDIOVISUAL—(1) Refers to seeing and hearing; (2) Equipment and materials used for communication in instruction. The term "audiovisual" has generally been replaced in popular usage by the term "educational media." (See also EDUCATIONAL MEDIA.)

CARREL—(1) A small cubicle or study desk set aside for the use of learners or staff for individual study; (2) A student study station with unitized desk, table, or booth designed to facilitate individual study. A "wet carrel" includes devices for use of instructional materials while a "dry carrel" lacks such devices.

CARTRIDGE—The case or container containing motion picture film, microfilm, and audio or videotape in an endless loop format.

CASSETTE—A case or container enclosing motion picture film, microfilm, and audio or videotape in a reel-to-reel format.

CHANNEL—A specific band of frequencies assigned to each radio or television station. In some closed-circuit installations, the video and audio signals are fed into an audio mixer tuned to a specific channel, enabling the signals to travel by means of a coaxial-cable system.

¹ For further information on the handbooks in the State Educational Records and Reports series and on the other sources referred to in this handbook, the user is directed to the bibliography.

COLLECTION—An accumulation of materials gathered for instruction, study, comparison, or exhibition.

COMMUNITY ANTENNA RELAY SYSTEM—An FCC authorized microwave frequency band for relaying television signals to cable television systems. (Also called CARS.)

COMPUTER GRAPHICS—(1) The production of graphic materials using a computer; (2) A technique which allows the computer operator to manipulate, modify, repeat, and expand or contract displayed images; dynamic displays of three-dimensional objects can be produced and then translated, rotated, and scaled continuously by applying a light pen.

COMPUTER-OUTPUT MICROFILM—Microfilm containing data produced by a recorder from computer-generated electrical signals. (Also called COM.)

COMPUTER-OUTPUT MICROFILMER—A recorder which converts data from a computer into human readable language and records it onto microfilm. It is classified in this handbook as a *Computer-Output Device* (02.020204). (Also called COM.)

CORRESPONDENCE INSTRUCTION—Instruction which is dependent on the systematic exchange between teacher and learner(s) of materials sent by mail.

COST BENEFIT—Analyses which provide the means for comparing the resources to be allocated to a specific program with results *likely* to be obtained from it; or analyses which provide the means for comparing the results *likely* to be obtained from the allocation of certain resources toward the achievement of alternate or competing objectives. (VII)

COST EFFECTIVENESS—Analyses designed to measure the extent to which resources allocated to a specific objective under each of several alternatives *actually* contribute to accomplishing that objective, so that different ways of gaining the objective may be compared. (VII)

COURSE—An organization of subject matter and related learning experiences provided for the instruction of pupils on a regular or systematic basis, usually for a predetermined period of time (e.g., a semester, a regular school term, or a 2-week workshop). (VR)

COURSE OF STUDY—A written guide prepared by administrators, supervisors, consultants, and teachers of a school system or school as an aid to teaching a given course or an aspect of subject matter or content to a given type of pupil. (See also **CURRICULUM GUIDE**.) (VII)

COURSEWARE—The actual instructional package (including content and technique) installed in a hardware-software system. (See also **HARDWARE**, **SOFTWARE**.)

CURRICULUM—The planned interaction of pupils with instructional *content*, instructional *resources*, and instructional *processes* for the attainment of educational objectives. (VII)

CURRICULUM GUIDE—A written plan including one or more aspects of curriculum and instruction such as philosophy, policies, aims, objectives, subject matter, resources, and processes. Such a plan may be as narrow in scope as a unit or topic of instruction, or as broad as the entire curriculum of a school system or level of instruction within a State. (See also **COURSE**.) (VII)

DATA PROCESSING—The execution of a systematic sequence of operations performed upon data. Synonymous with information processing.

DOUBLE SYSTEM SOUND—In motion picture production, the recording of sound separately from the picture. (See also **SINGLE SYSTEM SOUND**.)

EDUCATIONAL MEDIA—The equipment and materials used for communication in instruction. Includes motion pictures, television, printed materials, computer-based instruction, graphic and photographic materials, sound recordings, and three-dimensional objects. (See also **MATERIALS** (02.01) and **DEVICES** (02.02))

ELECTRIC BOARD—A generic term for numerous materials created to test, drill, or demonstrate. The board usually features an electrical circuit which activates a buzzer, bell, or light when appropriate contacts are made in response to problems or pictorial materials displayed on the board. (Same as **BUZZ BOARD**.)

ENGLISH, SOCIOCULTURAL DIALECT—A variation of the English language spoken in the United States by members of a distinct socio-cultural

group, such as Afro-Americans, Chicanos, Puerto Ricans, and Appalachian mountaineers. Such variations of English—generally denoted as nonstandard—differ from regional standard variations (and from each other) in regard to grammar as well as pronunciation and idiomatic usage. (VR)

ENGLISH, STANDARD AMERICAN—The English language as spoken in such mainstream institutions of the United States as governmental bodies, schools, churches, and communications media. While there are regional variations of standard American English, (e.g., Southern standard and New England standard), the grammar of these regional variations is similar, and the differences between them are predominantly those of pronunciation and idiomatic usage. (VR)

FILMLOOP—Film spliced in a loop for continuous playing without rewinding.

FILMSLIP—A short filmstrip, usually in rigid format or a rigid holder and without sound accompaniment.

FORMATIVE TESTING—Testing of students during the course of a program of instruction that measures the degree of performance attainment vis a vis the total behavioral objectives of that program.

FOUR CHANNEL SOUND—Sound reproduction with four discrete output signals (usually with two speakers in front and two speakers in back of the listener) to achieve a three-dimensional effect. Also used to denote any related recordings, equipment, and techniques.

FREQUENCY MODULATION—A system of staticless radio transmission based on the reversal of the usual system (amplitude modulation) in that the power output remains constant while the frequency of the waves is varied. (Also called FM.)

GRAPHIC MATERIALS—Instructional materials conveying meaning largely through line representations or symbols that are nearer to reality than verbal symbols. Examples are maps, charts, diagrams, posters, cartoons, and graphs. (Also called Graphics.)

HARDWARE—A term which originated in the computer field to describe the equipment required in a computer system. The term is popularly used to refer to the mechanical, electrical, or electronic

devices utilized in educational systems. (See also **COURSEWARE, SOFTWARE**.)

INSTRUCTION—The process of creating or making available experiences which facilitate learning. (See also **LEARNING**.)

INSTRUCTIONAL DEVELOPMENT—The application of research concerning learner, learning task, and presentation variables to the design and production of instructional products and the evaluation of these products according to prespecified criteria.

INSTRUCTIONAL LEVEL—An indication of the general nature and difficulty of instruction, e.g., elementary instructional level, secondary instructional level, and postsecondary instructional level. (VR)

INSTRUCTIONAL PRODUCT—Any material or group of materials produced for instructional purposes; use of this term in educational technology is limited to items that are replicable and reproducible.

INSTRUCTIONAL SYSTEM—An integrated group of program components organized to accomplish specified instructional objectives.

INTELLIGENT TERMINAL—A computer terminal which is a computer in its own right because of its inherent capabilities, e.g., memory.

ITEM OF INFORMATION—As used in this handbook, a descriptive heading under which is recorded information about educational technology.

LANGUAGE LABORATORY—A space specially designed, adapted, and/or designated for the teaching of languages, usually modern spoken languages. Such space may have tape recorders, individual carrels, listening stations, and other materials and equipment to facilitate the audiolingual method of language teaching. (See also **AUDIOLINGUAL METHOD** and Media-based Instructional Laboratory (02.0401010206).)

LEARNING—Simply defined, learning is a change in behavior (usually relatively permanent) acquired by an organism as a result of practice or experience. The actual internal process of learning is generally inferred rather than directly observed. Learning does not include behavior changes as a result of general or natural conditions such as physical development although such factors do play a part in

learning. In instruction, the term *learning* usually connotes conscious attempts of the learner to acquire cognitive and psychomotor skills. Learning and instruction are two sides of the same coin; the former is the acquisition of new behaviors (whether cognitive, affective, or psychomotor) and the latter is the planning and implementation of these experiences through which the learner will acquire the desired behaviors.

LEARNING ACTIVITIES—Actions or activities which result in an internalized change of behavior or response of the person performing the actions or activities.

LEARNING CONTRACT—A plan of instruction, adaptable to individual differences, in which the course content is divided into a number of long-term assignments, each student receiving a contract and being allowed to proceed to the next contract upon completion of the previous one. It usually provides not only for self-instruction but also for drill, activities, and appraisal of progress.

LEVEL OF PERFORMANCE—A predetermined level or stage of performance, or degree of proficiency.

LIBRARY—Irrespective of its title, any organized collection of printed books and periodicals or of any other graphic or audiovisual materials, and the services of a staff to provide and facilitate the use of such materials as are required to meet the informational, research, educational, or recreational needs of its users; also its physical facilities.

LOOP—A short length of film, audiotape, or videotape, with its ends joined together in a continuous loop to provide playback without rewinding.

MACHINE READABLE DATA FILE—A collection of related records that are treated as a unit and represented in such a way that they can be read and/or translated by a machine.

MAGNETIC DISC—A flat circular plate with a magnetic surface on which data can be stored by selective magnetization of portions of the flat surface.

MAGNETIC DRUM—A right circular cylinder with a magnetic surface on which data can be stored by selective magnetization of portions of the curved surface.

MAGNETIC TAPE—A tape, usually made of plastic, which is coated on one side with a magnetic oxide that will store data by the selective polarization of portions of the surface. Magnetic tape is used for recording audio and video signals and computer data.

MEASURE (noun)—A unit of measurement to which reference may be made for purposes of description, comparison, and evaluation. Many measures are obtained by computation involving one or more items of information. (VR)

MEDIA CENTER—An area or systems of areas in the school where a full range of information sources, associated equipment, and services from media staff are accessible to students, school personnel, and the school community. (Also called School Media Center.)

MEDIA RESEARCH CLASSIFICATION—An approach to specialized research about the interaction between learner and learning resources which also draws from communication theory, psychology, message design, and other related fields. There is enough overlap between media research and educational technology (as presented in this handbook) to warrant the view that there may be two ways of looking at the same thing—learning and instruction. Media research might be said to take the microcosmic view while educational technology deals more with the macrocosm. One such classification scheme of such research (based on Allen) is:

I. The Stimulus

- A. Media types (note: most common type of research with comparative effectiveness studies predominant).
- B. Stimulus forms (encoding forms, e.g., real, pictorial, symbolic, verbal, or still/motion; concrete/abstract; iconic/analogic).
- C. Media production variables (perception theory variables, e.g., attention directing features such as visual pointers, color, ground/spatial relationships, complex stimuli, size, underlining; learning theory variables, e.g., establishing educational set—verbal directions, advance organizers, repetition, reinforcement).
- D. Internal organization of media.

II. Student Response (e.g., covert vs. overt; frequency)

III. Content Attributes

- A. Subject-Matter Content
- B. Instructional Objectives
- C. Learning Hierarchies
- D. Learning Tasks
- E. Instructional Functions or Technical Skills

IV. Learner Attributes

V. Psycho-Physical Processes

VI. Instructional Use

- A. Teaching Techniques
- B. Instructional Strategies

MEDIATED INSTRUCTION—Instruction which is conducted with communications media rather than the direct face-to-face interaction of the teacher with the student (e.g., by print, film, recording, telephone, radio, television, or computer terminal).

MICROFILM—A fine-grain, high resolution film containing an image greatly reduced in size from the original. Microfilm may be black and white or in color. The microimages may be negative or positive.

MICROPAPER—Strips of paper containing microimages, sometimes with adhesive backing.

MICROPRINT—A trade name for microimages printed on sheets of card stock.

MONOPHONIC—Sound reproduction with a single output signal. Also used to denote any related recordings, equipment, and techniques.

NONPRINT MATERIALS—Materials which involve media other than the print medium (e.g., pictures, images, graphics, etc.). Many graphic materials are actually printed, but the term nonprint has come to mean those materials which are not textual or book-like in nature. The terms media, nonprint, and nonbook are often used interchangeably.

PARAPROFESSIONAL—A skilled, specially trained, nonprofessional assistant who performs essential tasks under the direction of a professional, freeing the professional to devote more of his time to strictly professional responsibilities. It is often used as a term which is equivalent to technician. (See also **PROFESSIONAL**.)

PERFORMANCE OBJECTIVE—A definitive learning specification; indicates in behavioral terms what skills and concepts the learner is expected to acquire following exposure to instruction. It may include components which indicate what the learner should do; under what conditions; and at what level of competence.

PERFORMANCE STANDARDS—The absolute or comparative levels of behavior required to determine achievement of specified objectives.

PLUS LENS—A single positive diopter lens which is attached to a normal camera lens for use in close-up photography.

PRINT (or Printed) MATERIALS—Materials utilizing the print medium (e.g., newspapers, books, magazines). The term is commonly used to denote textual or book-like materials rather than all materials which are actually produced by a printing process.

PRIVATE OR NONPUBLIC SCHOOL—A school established by an agency other than the State, subdivisions of the State, or the Federal Government, or established by an individual, which usually is supported primarily by other than public funds, and the operation of whose programs rests with other than publicly elected or appointed officials. (VIIM)

PROFESSIONAL—A person who has had extensive training in a particular area and who performs tasks which require a high degree of problem solving, data analysis and synthesis. Tasks tend to be specified in terms of a general problem to be solved. (Sometimes called "specialist.")

PROFICIENCY TEST—A test administered to students upon initial entry or at any subsequent time to measure the cognitive level of performance of students.

PROTOTYPE (Instructional)—A near-final model of an instructional product which is tested to determine what modifications of structure and performance are necessary. Based on the success of the prototype, decisions are made concerning the continuation and possible mass production or reproduction of the model.

PUBLIC SCHOOL—A school operated by publicly elected or appointed school officials in which the program and activities are under the control of these officials and which is supported primarily by public funds. (VR)

SEQUENCE—The order of presentation of aspects of the instructional program, as within a grade, a course, or a series of grades or courses.

SINGLE SYSTEM SOUND—In motion picture production, the recording of sound.

SKILLS—Abilities acquired by observation, study, or experience in mental and/or physical performance (e.g., proficiency in planning and investigating operational techniques, comprehension, organization, execution, remembrance, and application of knowledge to acquire a desired result) basic to the mastery of school work or other activity.

SOFTWARE—A term which originated in the computer field to describe the programs and instructions required for directing the operation of a computer system. The term is popularly used in educational circles to refer to materials, such as films and filmstrips, which are used with equipment or hardware. (See also **COURSEWARE**, **HARDWARE**.)

SOUND RECORDER—A generic term for any of several devices which can record sounds. The term includes audiotape recorders, wire recorders, magnetic film recorders, and is occasionally used to designate the audio or sound portion of a motion picture camera equipped for sound recordings. (Also called "audio recorder.")

SPECIMEN—A part or sample which is typical of a group or object or is representative of a class.

STEREOPHONIC—Sound reproduction with two separate, discrete output signals. Also used to denote any related recordings, equipment, and techniques.

STORYBOARD—A series of sketches or pictures and any accompanying text which visualize each topic or item in an audio/visual material to be produced.

SUBJECT—An organized body of knowledge which may be more comprehensive than a course but is less comprehensive than a subject-matter area. For example, the subject of American history may be

one course or it may be comprised of two courses, such as (a) American history up to the Civil War, and (b) American history from the Civil War to the present. (VI)

SUBJECT MATTER—A body of facts, understanding, processes, skills, values, and appreciations related to a specific aspect of human activity and experience. Subject matter includes the accumulated knowledge, skills, appreciations, and attitudes comprising the substance of any subject-matter area. (VI)

SUBJECT-MATTER AREA—A grouping of related subjects or units of subject matter under a heading such as English language arts, foreign languages, art, music, natural sciences, industrial arts, home economics, agriculture, business, physical education, and trades and industrial occupations. (VR)

SUMMATIVE TESTING—Testing of students at the close of a program of instruction that measures the total degree of performance attainment vis-a-vis the total behavioral objectives of the program.

SYSTEM—An organized assemblage of interrelated components designed to function as a whole to achieve predetermined objectives.

SYSTEMS APPROACH—A rational procedure for designing a system for attaining specific objectives. The methodology includes, minimally, specification of objectives in measurable terms; restatement of objectives in terms of capabilities and constraints; development of possible approaches; selection of appropriate approaches as a result of a trade-off study; integration of the approaches; evaluation of the effectiveness of the system in attaining objectives.

TARGET AUDIENCE—That portion of the total learner population selected for exposure to instruction. This group is generally identified in terms of certain common social and/or learning characteristics.

TEACHING—The process of helping pupils acquire knowledge, skills, attitudes, and/or appreciation by means of a systematic method of instruction. Teaching is the term commonly used to indicate face-to-face instruction. (See also **MEDIATED INSTRUCTION**.)

TECHNICIAN—A person with some specialized training who performs tasks requiring the use of specified yet complex sequence (or alternate sequences) of tasks, sometimes using reference materials. Tasks tend to be assigned or described in terms of a specific, defined output, either product or service.

TELECLASS—A method of teaching homebound pupils as a group; the teacher uses an automatic dialer on the desk, and buttons on the telephone console enable the teacher to talk to the whole class of homebound pupils or to each pupil privately.

TELELECTURE—An arrangement which brings a teacher or any lecturer to the classroom audience via regular telephone lines. The installation may provide two-way communication between speaker and audience and may also enable speaker to participate with several classes simultaneously at different locations.

TELEPHONE SCHOOL-HOME INSTRUCTION—An arrangement which provides for two-way communication between a homebound student and those in the classroom.

TELEWRITING—The use of telephone lines for transmission of graphics to accompany audio information. It provides visual displays of graphic material on a television monitor or similar device in the classroom while simultaneously permitting two-way conversations between teachers and students at separate locations.

TITLE—For statistical purposes, a title is a publication which forms a separate bibliographic whole, whether issued in one or several volumes, reels,

discs, slides, or parts. It applies equally to printed materials, such as books and periodicals, and to audiovisual materials and microforms.

TOPIC OF INSTRUCTION—An identifiable segment of a unit of instruction. (See also **UNIT OF INSTRUCTION**.) (VI)

TRAINING—A planned and systematic sequence of instruction under competent supervision designed to impart predetermined skills, knowledge, or abilities with respect to designated occupational objectives; and, in addition to occupational training, may include, to the extent necessary, adult basic education, prevocational training, refresher and reorientation training for professionals, and such direction and supervision as may be required by an agency or institution to conduct the training. (VI)

UNIT OF INSTRUCTION—As used in this handbook, a planned series of learning activities or experiences which has: (1) predetermined, stated objectives; (2) a definite beginning and a definite end; (3) a specified learner population; (4) some specified means of assessing the learning which has taken place as a result of the interface between the learner and the unit of instruction. Although no particular length is prescribed for a unit of instruction, it is usually thought of as shorter in length than a course (sometimes called an Instructional Module).

VOLUME—A physical unit of any printed, typewritten, handwritten, mimeographed, or processed work, contained in one binding or portfolio, hardbound or paperbound, which has been cataloged, classified, and/or made ready for use.

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It would be impossible to list here the name of every individual who made an important contribution

to the handbook. The organizations and people listed below, however, deserve special recognition.

Nineteen national associations, representing a range of interest areas in education, agreed to serve on the national advisory panel. Each association was asked to appoint a special project delegate to attend three 3-day advisory meetings in Washington, D.C. In addition, each association, through the efforts of the delegate and the association leadership, recommended representatives for the 10 regional review meetings. The following list identifies each of the 19 associations, along with the name of the executive officer and the name and the title of the project delegate(s). Individuals are listed according to title and location at the time of the project.

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In addition to the 19 associations represented on the primary advisory group, a total of 29 other organizations were consulted during the development of the handbook.

Association of American Publishers
American Association of School Librarians for the American Library Association
Association for Childhood Education International
Association of Chief State School Audiovisual Officers
Association of School Business Officials
American Institute of Architects
American National Standards Institute
American Personnel and Guidance Association
American Society for Information Science
American Society for Training and Development
Catholic Audiovisual Educators Association
Council for Exceptional Children
Educational Film Library Association
Educational Media Council
Educational Materials Producers Council
Educational Products Information Exchange
Educational Research Information Center
Health Education Media Association
Institute of Electrical and Electronics Engineers
International Reading Association
Joint Council on Educational Telecommunications
National Audiovisual Association
National Association of Independent Schools

National Catholic Educational Association
National Cable Television Association
National Microfilm Association
National School Boards Association
National Society for Performance Instruction
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The following bibliography is divided into two parts. The first part is a listing of directly related NCES handbooks, including the State Educational Records and Reports Series (of which this is a part), which deal with definitions, terminology, and data collection. The second part of the bibliography is a listing of selected references for definitions and terminology which are not NCES publications and which provide an overview of technology and its application to instruction and education.

Note: an asterisk (*) preceding a title indicates that the publication is quoted or referred to in this handbook. The letter (R) indicates a revised edition which supersedes the original edition.

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INDEX*

A

Access

- cost of,
 - aspects of devices evaluation, 44, 178
 - aspects of materials evaluation, 43, 177
 - aspects of settings evaluation, 44, 180
- random, see Random access slide projector
- remote, see Remote access

Accounting

- personnel, 50, 201
 - career development 50, 202
 - conditions of current assignment, 50, 201
 - current employment, 50, 201
 - education and experience, 50, 201
 - function and program assignment, 50, 201
 - job classification and activity assignment, 50, 201
 - personal and health information, 50, 201
 - separation, 50, 202
 - subject-matter area, 50, 201

Accuracy of content, 44, 182

Achievement, 213

Acoustics, 44, 181

Acquisition

- evaluation for adoption or, 45, 183
- of learning resources, 46, 185

Action research, 35, 138

Activities

- audio/radio production, 38, 153
- cocurricular, 30, 123
- computer-assisted instruction production 42, 172
- graphic production and reproduction, 37, 144

*The term and the prefix "audio" are sometimes used in preference to the term and prefix "sound." Users of this handbook who follow the current draft of chapter 14 of the *Anglo-American Cataloging Rules* should check under the heading "audiorecording" for the AACR term "sound recording."

learning, 215

- learning, referrals for, see Referrals for learning activities or for intellectual, social, or emotional reasons
- limitation on institutional, 15, 57
- location of learning, 15, 60
- manipulative and tactile, 25, 102
- motion picture production, 40, 163
- still photography production, 39, 158
- television production, 41, 168

Administrative assignment

- official/administrative, 31, 127
- system, 31, 127
- unit, 31, 127

Admission information, see Entrance admission information

Adoption

- or acquisition, evaluation for, 45, 183
- stage, 35, 137

Adult

- of the domicile, responsible, 14, 54
- status, see Minor/adult status

Affective objectives, 36, 141

Age data, see Birth and age data

Agriculture, 29, 117

- and natural resources, 30, 124

Aide, 213

- assignment, 32, 132

AM, see Amplitude Modulation

American English, standard, 215

Amplification equipment, see Audio amplification equipment

Amplitude Modulation, 213

- Analysis
 - comparative, 25, 100
 - data, 34, 136
 - learner, 36, 139
 - learning task, 36, 139
 - setting, 36, 139
- Animal/autonomic learning stage, 34, 136
- Animating, 40, 164
- Animation stand, 23, 41, 93, 167
- Anamolies, physical, see Physical anamolies and cosmetic conditions of potential significance
- Antenna system, 23, 90
 - television distribution, community 46, 187
- Aperture card, 18, 69
- Application of implementation, 48, 196
- Applied research, 35, 137
- Approach, systems, 218
- Aptitude, 213
- Architecture and environmental design, 30, 124
- Area
 - graphic production, 28, 38, 115, 153
 - studies, 30, 124
- Areas
 - instructional, 27, 108
 - instructional support, 28, 114
- Arrangements, implementation, 34, 135
- Art, 29, 117
 - and graphic art supplies, 20, 38, 77, 149
 - print, 19, 72
- Arts
 - english language, 29, 119
 - fine and applied, 30, 125
 - industrial, 29, 120
- Aspects
 - of content, 44, 181
 - of devices, 43, 178
 - of items under evaluation, 43, 177
 - of learner, 43, 177
 - of learning resources, 43, 177
 - of materials, 43, 177
 - of settings, 44, 180
 - of techniques, 44, 180
 - of units of instruction, 44, 182
- Assessment
 - needs, 36, 139
 - of implementation, 49, 196
 - of learning, 47, 193
 - provision for, 36, 142
 - referent of learner, 36, 142
 - stage of learner, 36, 142
- Assignment
 - accounting, personnel conditions of current, 50, 201
 - accounting, personnel function and program, 50, 201
 - aide, 32, 132
 - board of directors, 31, 127
 - computer technical, 32, 131
 - condition of current, 50, 201
 - counseling, 31, 129
 - crafts and trades, 32, 132
 - curriculum specialist, 32, 129
 - educational development, 32, 129
 - educational management analyst, 32, 130
 - educational program planning, 32, 130
 - evaluation, 32, 130
 - media maintenance technical, 32, 131
 - media management, 32, 130
 - media production, 32, 129
 - media production technician, 32, 131
 - media technical, 32, 131
 - office/clerical, 32, 131
 - official/administrative, 31, 127
 - personnel, 32, 130
 - professional/specialist, 31, 129
 - research, 32, 129
 - staff development, 32, 130
 - supervision/directing, 31, 127
 - system administrative, 31, 127
 - teaching, 32, 130
 - teaching assistant, 32, 131
 - technical, 32, 131
 - unit administrative, 31, 127
- Assistance information, special, see Special assistance and tuition information

- Associate level education, see Subject-matter areas in elementary, secondary, and associate-level education
- Attendance, membership and, 15, 61
- Audience, target, 218
- Audio
- amplification equipment, 22, 39, 40, 84, 156, 165
 - comparator, 213
 - compressor, 22, 39, 84, 156
 - console, 22, 39, 40, 84, 156, 165
 - control room, 28, 39, 114, 157
 - devices, 21, 80
 - distribution, closed circuit, 46, 189
 - induction equipment, 22, 85
 - materials, see Audiorecordings
 - mixer, 22, 39, 40, 84, 156, 165
 - production, see Audio/radio production
 - supplies, see Audiorecording supplies
 - transcriber, 22, 39, 84, 156
- Audiocard
- recorded, 18, 66
 - recorder, 21, 39, 83, 155
 - unrecorded, 19, 39, 75, 154
- Audiocartridge, see Audiotape cartridge
- Audiocassette, see Audiotape cassette
- Audiodisc, 18, 66
- player, 22, 39, 83, 155
 - sound filmstrip projector, 23, 94
 - sound filmstrip viewer, 24, 95
- Audiolingual method, 213
- Audiopage
- recorded, 18, 67
 - recorder, 22, 39, 83, 155
 - unrecorded, 20, 39, 75, 155
- Audio/radio
- directing, 38, 153
 - engineering, 39, 154
 - producing, 38, 153
 - production, 38, 153
 - activities, 38, 153
 - equipment, 39, 155
 - sites, 39, 157
 - supplies, 39, 154
 - script writing, 38, 153
- Audiorecording, 18, 66
- Audiorecording supplies, 19, 75
- Audioreel, see Audiotape, reel
- Audioslide, 19, 70
- projector, 24, 96
- Audiotape
- blank, see Audiotape, unrecorded
 - cartridge
 - recorded, 18, 67
 - unrecorded, 19, 75
 - cassette
 - recorded, 18, 66
 - unrecorded, 19, 75
 - copier, see Audiotape duplicator
 - duplicating, 39, 154
 - duplicator, 22, 39, 84, 156
 - cartridge, 22, 84
 - cassette, 22, 84
 - reel, 22, 84
 - editing, 39, 154
 - playback, see Audiotape player
 - player, 21, 83
 - cartridge, 21, 83
 - cassette, 21, 83
 - reel, 21, 83
 - recorded, 18, 66
 - recorder, 21, 39, 40, 80, 155, 165
 - cartridge, 21, 83
 - cassette, 21, 83
 - magnetic film, 21, 40, 83, 165
 - reel, 21, 83
 - reel
 - recorded, 18, 66
 - unrecorded, 19, 75
 - slide, audiotape, 19, 70
 - unrecorded, 19, 40, 75, 155, 164
- Audiovisual, 213
- Auditorium, 28, 112
- Availability
- of materials for devices, 44, 180
 - of needed devices, 43, 178

Availability—Continued

of repair service, 44, 179

of replacement parts, 44, 179

AV Center, see Audiovisual center

B

Belt, dictation/transcription, 18, 67

Benefit, cost, 214

Biological sciences, 30, 124

Birth and age data, 14, 53

Blackboard, see Chalkboard

Blank

audiotape, see Audiotape, unrecorded

magnetic film, see Magnetic Film, unrecorded

videotape, see Videotape, unrecorded

Board

bulletin, 24, 99

buzz, see Electric board

drawing, see Drawing table/board

electric, 214

feltboard, 24, 99

hook-and-loop, 24, 99

magnetic, 24, 99

of directors assignment, 31, 127

Book, 19, 72

talking, 18, 67

Box, light, 22, 38, 88, 152

Branch

library, see Satellite center

media center, see Satellite center

Branching, computer-assisted instruction, 42, 172

Brothers and sisters living in the household, 14, 54

Bulletin board, 24, 99

Business, 29, 117

and management, 30, 124

education room, 27, 108

Buzz board, see Electric board

C

Cafetorium, 28, 112

CAI, see Computer-assisted instruction

Camera, 23, 91

lens, interchangeable, 23, 40, 41, 92, 160, 166, 171

microform, 23, 92

motion picture, 23, 41, 91, 166

operating, see Television camera operating

still photographic, 23, 40, 91, 160

support, 23, 40, 41, 92, 161, 166

support, 23, 41, 90, 170

television, 23, 41, 89, 170

Card

aperture, 18, 69

computer,

punched, 18, 67

unpunched, 20, 76

data, see Computer card

punched, see Computer card

Cardiac condition, 14, 56

Career development, accounting, personnel, 50, 202

Carrel, 213

CARS, see Community antenna relay system

Cartridge, 213

audiotape

recorded, 18, 67

unrecorded, 19, 75

audiotape duplicator, 22, 84

audiotape player, 22, 83

audiotape recorder, 21, 83

blank, see Audiotape cartridge, unrecorded

filmstrip viewer, 24, 94

motion picture projector, see Motion picture projector, 8mm cartridge/cassette

slide projector, 24, 95

slide viewer, 24, 96

videotape,

recorded, 18, 68

unrecorded, 20, 77

videoplayer, 23, 89

- Cartridge—Continued
videotape recorder, 22, 89
- Case and field research, 35, 138
- Cassette, 213
audiotape
recorded, 18, 66
unrecorded, 19, 75
audiotape duplicator, 22, 84
audiotape player, 21, 83
audiotape recorder, 21, 80
blank, see Audiotape cassette, unrecorded
filmstrip projector, 23, 94
filmstrip viewer, 24, 95
motion picture projector, see Motion picture projector, 8mm cartridge/cassette
slide projector, 24, 95
slide viewer, 24, 96
videoplayer, 23, 89
videotape,
recorded, 18, 68
unrecorded, 20, 77
videotape recorder, 22, 88
- CATV, see Community antenna television
- Causal-comparative research, 35, 138
- CDI, see Computer-developed instruction
- Center
computer, 28, 42, 114, 175
educational media listening, 22, 85
media, 216
satellite, 28, 112
teaching skills, see Curriculum laboratory
- Chain, film, 23, 41, 90, 170
- Chalkboard, 24, 99
- Channel, 213
- Characteristics
related learner, see Mental, psychological, and proficiency test results and related learner characteristics
special mental and psychological, 15, 58
- Chart, 19, 72
- Checking, computer-assisted instruction, 42, 173
- Chemicals, photographic, 20, 39, 79, 159
- Citizenship status, 14, 53
- Classification
accounting, see Personnel job classification and activity assignment accounting
research, media, 216
- Class, type of, see Type of class or instructional grouping
- Classroom, see Regular instructional space
open, 25, 103
- Cleaning machine, film, see Film inspection/cleaning machine
- Clerical assignment, see Official/clerical assignment
- Closed-circuit
audio distribution, 46, 189
television, 46, 187
- CMI, see Computer-managed instruction
- Cocurricular
activities, 30, 123
information, 14, 62
- Codes, building, 44, 181
- Coding, computer-assisted instruction, 42, 173
- Cognitive objectives, 36, 141
- Collection, 214
- Commercial
radio distribution, 46, 188
television distribution, 46, 187
- Communication, principal medium of teacher-learner, 15, 60
- Communications, 30, 124
- Community antenna
relay system, 214
television distribution, 46, 187

Comparative analysis, 25, 100

Compatibility

- of unit of instruction,
 - with institution, 44, 183
 - with other programs, 44, 182
- with learner,
 - aspects of content evaluation, 44, 181
 - aspects of materials evaluation, 43, 177
 - aspects of settings evaluation, 44, 180
 - aspects of techniques evaluation, 44, 180
- with learning objectives,
 - aspects of materials evaluation, 43, 177
 - aspects of techniques evaluation, 44, 180
- with other learning resources,
 - aspects of content evaluation, 44, 182
 - aspects of devices evaluation, 44, 180
 - aspects of materials evaluation, 43, 178
 - aspects of settings evaluation, 44, 181
 - aspects of techniques evaluation, 44, 180

Comparative research, see Causal-comparative research

Comparator, audio, 213

Completion, recognition for, 15, 62

Compressor, audio, 22, 39, 84, 156

Computer, 22, 42, 85, 174

and information sciences, 30, 124

assisted instruction, 26, 104

card

punched, 18, 67

unpunched, 20, 76

center, 28, 42, 114, 175

console, 22, 86

developed instruction, 26, 104

devices, 22, 85

graphics, 214

input device, 22, 42, 86, 174

instruction, see Computer-based instruction

laboratory, 27, 110

magnetic tape,

recorded, 18, 68

unrecorded, 20, 42, 76, 173

managed instruction, 26, 105

materials, 18, 67

output device, 22, 42, 86, 174

output form, 20, 42, 76, 174

output microfilm, 214

output microfilmer, 214

printout, 18, 67

program, 18, 68

simulation, 26, 105

supplies, 20, 76

tape, see Computer magnetic tape

tape, blank, see Computer magnetic tape, unrecorded

terminal, 22, 42, 86, 174

Computer-assisted instruction, 26, 104

branching, 42, 172

checking, 42, 173

coding, 42, 173

debugging, 42, 173

entering, 42, 173

frame writing, 42, 173

lesson testing, 42, 173

listing, 42, 173

production, 42, 172

activities, 42, 172

equipment, 42, 174

sites, 42, 175

supplies, 42, 173

sequencing, 42, 172

Computer-based instruction, 26, 104

Conclusion formulation, 34, 136

Condition

cardiac, 14, 56

neurological, 14, 55

orthopedic, 14, 55

Conditions

cosmetic, see Physical anomalies and cosmetic conditions of potential emotional significance

of current assignment, accounting, personnel, 50, 201

referrals for, see Referrals for physical, health, sensory and related conditions

physical, health, sensory and related, 14, 55

related physical, 14, 56

sensory, physical and related, 14, 55

special mental and psychological, 15, 58

Considerations, language, 14, 53

Console

audio, 22, 39, 40, 84, 156, 165

computer, 22, 86

television, 23, 41, 90, 170

- Construction, theory, 34, 134
- Content, 5, 6, 29, 117
accuracy of, 44, 182
aspects of under evaluation, 44, 181
compatibility with learner, 44, 182
compatibility with other learning resources, 44, 182
social acceptance of, 44, 182
- Continued use, evaluation for, 45, 183
- Contract, learning, 216
- Control
projector dissolve, 24, 40, 97, 161
room
audio, 28, 39, 114, 157
television, 28, 41, 116, 172
- Controlled testing, 45, 184
- Coordination
internal, 49, 198
interorganizational, interinstitutional, 49, 198
of programs and activities, 49, 198
- Course, 214
- Course of study, 214
- Courseware, 214
- Copier
audiotape, see Audiotape duplicator
electrostatic, 22, 38, 87, 151
thermal, 22, 38, 87, 151
wet process, 22, 38, 87, 151
- Copying
electrostatic, 37, 144
nonphotographic, 37, 144
photographic, 39, 158
thermal, 37, 144
wet process, 37, 144
- Copystand, 23, 40, 93, 161
- Copy supplies
electrostatic, 20, 38, 78, 150
thermal, 20, 38, 77, 150
wet process, 20, 38, 78, 150
- Correlational research, 35, 138
- Correspondence instruction, 214
- Corridor, open, 25, 103
- Cosmetic conditions, see Physical anomalies and cosmetic conditions of potential emotional significance
- Cost
of access
aspects of devices evaluation, 44, 178
aspects of materials evaluation, 43, 177
aspects of settings evaluation, 44, 180
of maintenance,
aspects of devices evaluation, 44, 178
aspects of materials evaluation, 43, 177
aspects of settings evaluation, 44, 181
of operation, 44, 178
- Cost benefit, 214
evaluation for, 45, 183
- Cost effectiveness, 214
evaluation for, 45, 183
- Counseling assignment, 31, 129
- Course information, 15, 62
- Crafts and trades assignment, 32, 132
- Credit (unit of value), 15, 62
- Criterion-referenced measurement, 36, 142
- Cross-age
teaching, 26, 106
tutoring, 26, 107
- Cultural information, see Family social/cultural information
- Current
assignment accounting, personnel conditions of, 50, 201
employment accounting, personnel, 50, 201
- Curriculum, 214
differentialized for handicapped students, 30, 122
guide, 214

Curriculum—Continued

- laboratory, 28, 114
- specialist assignment, 32, 129

D

DAIR, see Dial access information system

Darkroom, 28, 40, 115, 162
equipment, 23, 40, 93, 161

Data

- analysis, 34, 136
- File, machine readable, 216
- processing, 214

Day/evening status, 15, 61

Debugging, computer-assisted instruction, 42, 173

Deficiencies, remediation of learning, 47, 193

Definition, problem, 34, 134

Delivery

- intrainstitutional, 46, 189
- local, 46, 189
- provision for electronic, 44, 181
- regional, 46, 189

Demonstration, 25, 100
space, 28, 113

Descriptive research, 35, 138

Design, 6, 7, 36, 139
selection, research, 34, 135
specifications, statement of, 36, 143

Determination

- of group size, 47, 192
- of pacing, 47, 192

Development

- assignment, see Educational development assignment; Staff development assignment
- career, development assignment, personnel, 50, 202
- functions, see Learning resources development functions
- history of physical, 14, 55
- instructional, 215

- of goals and policies, 48, 194
- about instructional management, 48, 196
- about instructional programs, 48, 194
- about learners, 48, 194
- about learning resources, 48, 194
- about learning resources development functions, 48, 196
- about organizational/institutional role(s) and purpose(s), 48, 194
- about units of instruction, 48, 194
- of materials, stages of evaluation in the, 45, 183

Developmental

- stage, 35, 137
- testing, 45, 184

Device

- computer input, 22, 42, 86, 174
- computer output, 22, 42, 86, 174
- image modification, 22, 38, 88, 152
- mechanical lettering, 22, 38, 87, 151
- photographic lettering, 22, 38, 87, 152
- slow-scan television, 23, 90

Devices, 5, 6, 21, 80

- aspects of under evaluation, 43, 178
- audio, 21, 80
- computer, 22, 85
- electronic display, 22, 88
- graphic and reproduction, 22, 86
- photographic, 23, 91
- physical display, 24, 99
- projected and magnified display, 23, 94
- subject-matter-related, 24, 99

Dial access information system, see Information network distribution

Dialect, English sociocultural, 214

Dialo

- duplication, 38, 148
- printer, 22, 38, 86, 151
- supplies, 20, 38, 77, 150

Dictation/transcription belt (recorded), 18, 67

Differentiated curriculum for handicapped students, 30, 122

Diorama, 19, 73

Directed observation, 25, 100

Directing

- assignment, see Supervision/directing assignment
- audio/radio, 38, 153
- motion picture, 40, 163
- television, 41, 168

Disabilities, learners with specific learning, 15, 59

Disc, magnetic, 216

Discussion, 25, 100

Display

- devices
 - electronic, 22, 88
 - projected and magnified, 23, 94
- materials, recorded electronic, 18, 68
- supplies, electronic, 20, 76

Displays, physical, 24, 99

Dissolve control, projector, 24, 40, 97, 161

Distributive education, 29, 119

Distribution

- closed-circuit television, 46, 187
- commercial radio, 46, 188
- commercial television, 46, 187
- community antenna television, 46, 187
- electronic, 46, 187
- information network, 46, 188
- instructional television fixed-service, 46, 188
- of learning resources, 46, 187
- public radio, 46, 188
- public television, 46, 187
- radio, 46, 188
- satellite relay, 46, 188
- television, 46, 187

Ditto machine, see Spirit duplicator

Domain of objectives, 36, 141

Domain-referenced measurement, 36, 143

Double system sound, 214

Drafting machine, 22, 38, 87, 152

Dramatization, 25, 100

Drawing board/table, 22, 38, 87, 152

Drill, 25, 102

Driver education, see Safety and driver education

Drum, magnetic, 216

Dry mount

- press, 22, 38, 88, 152
- supplies, see Mounting/laminating supplies

Dual 8mm, Motion picture projector, 24, 98

Duplicating, 38, 148

- audiotape, 39, 154
- videotape, 41, 169

Duplication

- diao, 38, 148
- rotary stencil, 38, 148
- spirit, 38, 148

Duplicator

- audiotape, 22, 39, 84, 156
- cartridge, 22, 84
- cassette, 22, 84
- reel, 22, 84
- rotary stencil, 22, 38, 87, 151
- slide, 23, 40, 93, 161
- spirit, 22, 38, 86, 151
- stencil, see Rotary stencil duplicator
- videotape, 23, 41, 89, 170

E

Earphone, see Headset

Ease

- of operation, 44, 179
- of repair, 44, 179

Ecology, human, see Home economics

Economic information, see Family economic information

Economics, home, 29, 30, 120, 125

Editing

- audiotape, 39, 154

- Editing—Continued
 - motion picture, 40, 163
 - videotape, 41, 169
- Editor
 - motion picture, 23, 93
 - videotape, 23, 89
- Education, 30, 124
 - and experience accounting, personnel, 50, 201
 - associate level, see Subject-matter areas for elementary, secondary, and associate-level education
 - distributive, 29, 119
 - driver, see Safety and driver education
 - elementary, see Subject-matter areas for elementary, secondary, and associate-level education
 - general elementary and general secondary, 30, 122
 - health occupations, 29, 119
 - higher, see Subject-matter areas for higher education
 - information, postinstitutional, see Postinstitutional education and training information
 - inservice, see Inservice education
 - physical, see Health and safety in daily living, physical education, and recreation
 - safety and driver, 30, 123
 - secondary, see Subject-matter areas for elementary, secondary, and associate-level education
 - subject-matter areas for elementary, secondary, and associate level, 29, 117
 - subject-matter areas for higher, 30, 123
 - technical, 30, 121
- Educational
 - development assignment, 32, 129
 - management analyst assignment, 32, 130
 - media, 214
 - center, see General learning resources space
 - program planning assignment, 32, 130
 - technology, see Educational technology
 - television programming, 26, 105
 - toy, 19, 74
- Educational technology
 - components of, 5
 - statement of definition, 5
- Effectiveness, cost, 214
- 8mm
 - dual, see Motion picture projector, dual 8mm
 - motion picture, 19, 71
 - motion picture projector, 24, 98
 - motion picture projector, dual, 24, 98
- Electric
 - board, 214
 - power, 44, 181
- Electronic
 - delivery, provision for, 44, 181
 - display devices, 22, 88
 - display materials, recorded, 18, 68
 - display supplies, 20, 76
 - distribution, 46, 187
 - flash, 23, 40, 92, 160
- Electrostatic
 - copier, 22, 38, 87, 151
 - copying, 37, 144
 - copy supplies, 20, 38, 78, 150
- Elementary education, see Subject-matter areas for elementary, secondary, and postsecondary education
 - General, see General elementary education and general secondary education
- Emergency information, 15, 57
- Emotional reasons, referrals for, see Referrals for learning activities, or for intellectual, social or emotional reasons
- Emotionally disturbed, seriously, 15, 59
- Employment
 - accounting, personnel current, 50, 201
 - personnel, 50, 198
- Enabling objectives, 36, 141
- Engineering, 30, 125
 - audio/radio, 39, 154
 - television, 41, 168
- English
 - language arts, 29, 119
 - sociocultural dialect, 214
 - standard American, 215
- Enlarger, 23, 40, 93, 161
- Enlarger-reducer, see Image modification device
- Enlarging-reducing machine, see Image modification device
- Enrollment, 15, 59
- Entering, computer-assisted instruction, 42, 173
- Entrance (admission) information, 15, 59
- Environmental design, see Architecture and environmental design

Equipment

- audio induction, 22, 85
- audio/radio production, 38, 153
- computer-assisted instruction production, 42, 174
- darkroom, 23, 40, 93, 161
- graphic production and reproduction, 38, 151
- lighting, 23, 40, 41, 92, 161, 171
- motion picture production, 40, 163
- room, 28, 115
- still photography production, 40, 160
- television production, 41, 168

Ethnic group, *see* Racial/ethnic group

ETV, *see* Educational television

Evaluation, 5, 7, 43, 175

- aspects of items under, 43, 177
- assignment, 32, 130
- for acquisition or adoption, 45, 183
- for continued use, 45, 183
- for cost benefit, 45, 183
- for cost effectiveness, 45, 183
- for revision, 45, 183
- purposes of, 44, 183
- sources of, 45, 184
- stages of, in the development of materials, 45, 184

Evening status, *see* Day/evening status

Examination, physical, 14, 56

Exceptional children, special instructional space for, 28, 111

Exhibit, 19, 73

Experience

- field, 25, 104
- laboratory, 25, 103

Experimental

- research, 35, 138
- treatment, 34, 135

Experimentation, 25, 102

Expert opinion, 45, 184

Exposure meter, 23, 40, 41, 92, 160, 166, 171

F

Facilitation of learner response, 47, 193

Family

- and residence, 14, 54
- economic information, 14, 54
- responsibility, 14, 53
- social/cultural information, 14, 54

Feltboard, 24, 99

Field

- experience, 25, 104
- research, *see* Case and field research
- testing, 45, 184
- test station, 28, 113
- trip, 25, 104

File, machine readable data, 216

Film

- chain, 23, 41, 90, 170
- inspection, cleaning machine, 24, 98
- magnetic, unrecorded, 20, 40, 75, 164
- magnetic, blank, *see* Magnetic film, unrecorded
- motion picture
 - 8mm, 20, 40, 79, 164
 - 16mm, 20, 40, 79, 164
 - super/single 8mm, 20, 40, 79, 164
- processor, *see* photographic processor
- still photographic, 20, 39, 79, 159

Filming, 40, 163

Filmloop, 215

Filmalip, 215

Filmstrip, 18, 70

- projector, 23, 94
 - filmstrip/slide, 23, 94
 - silent, 23, 94
 - slide/filmstrip, 23, 94
 - sound, audiodisc, 23, 94
 - sound, cassette, 23, 94
- silent, 18, 70
- sound, 18, 70
- viewer, 24, 94
 - silent, 24, 94
 - sound, audiodisc, 24, 95

- Filmstrip—Continued
 - sound, cartridge, 24, 95
 - sound, cassette, 24, 95
 - Fine and applied arts, 30, 125
 - Fiscal services, 49, 197
 - Flannelboard, see Felt board
 - Flashbulb, see Flashlamp
 - Flashcube, see Flashlamp
 - Flash, electronic, 23, 40, 92, 160
 - Flashlamp, 20, 179
 - Flash meter, see Exposure meter
 - FM, see Frequency Modulation
 - Foreign languages
 - subject-matter area in elementary, secondary, and associate-level education, 29, 119
 - subject-matter area in higher education, 30, 125
 - Form
 - of test administration, 15, 57
 - mark sensing, 20, 76
 - Format, selection of presentation, 36, 143
 - Formation, conclusion, 34, 136
 - Formative testing, 215
 - Formulation, hypothesis, 34, 135
 - Four channel sound, 215
 - Frame writing, computer-assisted production, 42, 173
 - Frequency
 - modulation, 215
 - of repair, 44, 179
 - Fullcoat, see Magnetic film, unrecorded
 - Full-time/part-time status, 15, 60
 - Function and program assignment, accounting, personnel, 50, 201
- G**
- Gains, learner performance, 43, 177
 - Gallery, 28, 113
 - Game, 19, 73
 - Gaming, 25, 103
 - General
 - elementary education, and general secondary education, 30, 122
 - learning resources spaces, 28, 111
 - secondary education, see General elementary and general secondary education
 - techniques of instruction, 25, 100
 - use spaces, 28, 112
 - Gifted and talented, 15, 58
 - Globe, 19, 73
 - Goal identification, instructional, 36, 139
 - Goals
 - and policies, development of, 48, 194
 - about instructional management functions, 48, 196
 - about instructional programs, 48, 194
 - about learners, 48, 194
 - about learning resources, 48, 194
 - about learning resources development functions, 48, 196
 - about organizational/institutional role(s) and purpose(s), 48, 194
 - about units of instruction, 48, 194
 - and policies, implementation of, 48, 196
 - Grade entered or year in school, 15, 60
 - Graphic
 - and reproduction
 - devices, 22, 86
 - supplies, 20, 77
 - art supplies, see Art and graphic art supplies
 - materials, 215
 - production area, 28, 38, 115, 153

Graphic—Continued

- production and reproduction, 37, 144
 - activities, 37, 144
 - equipment, 38, 151
 - sites, 38, 152
 - supplies, 38, 149

Graphics, see Graphic materials
computer, 214

Group

- large, 47, 192
- racial/ethnic, 14, 53
- size, determination of, 47, 192
- small, 47, 192
- work, 26, 107

Grouping, instructional, see Type of class or instructional grouping

Guide, curriculum, 214

Gymnasium, 28, 113

Gymnasium, 28, 113

H

Handicap, physical and/or health, 14, 56

Handicapped students, differentialized curriculum for, 30, 122

Hardware, 215

Headphone, see Headset

Headset, 22, 39, 40, 85, 156, 165

Health

- and safety in daily living, physical education, and recreation, 29, 120
- conditions, see Physical, health, sensory, and related conditions
- conditions, referrals for, see Referrals for physical, health, sensory and other related conditions
- handicap, see Physical and/or health handicap
- impairments, see Physical, health, and sensory impairments

- information accounting, see Personnel personal and health information accounting
- occupations education, 29, 119
- professions, 30, 125

Hearing, 14, 55

Higher education, subject-matter areas for, 30, 123

Historical research, 35, 137

History

- medical, 14, 56
- of physical development, 14, 55

Hologram, 19, 71

Home economics, 29, 30, 120, 125
room, 27, 110

Home instruction, 26, 104

Hook-and-loop board, 24, 99

Hospital instruction, 26, 104

Household, brothers and sisters living in the, 14, 54

Housing of learning resources, 46, 185

Human ecology, see Home economics

Human learning stage, 35, 137

Hypothesis formulation, 34, 135

I**Identification**

- instructional goal, 36, 139
- personal, 14, 53
- test, 15, 57

Illustrating, 38, 149

Image modification device, 22, 38, 88, 152

Imitation, see Modeling and imitation

Impairments, physical, health, and sensory, 15, 56

- Implementation
 - application of, 48, 196
 - arrangements, 34, 135
 - assessment of, 49, 196
 - of goals and policies, 48, 196
 - planning for, 48, 196
 - providing information for, 48, 196
- Independent study, 26, 107
- Individual learner, 47, 192
- Induction equipment, audio, 22, 85
- Industrial
 - arts, 29, 120
 - occupations, see Trade and industrial occupations
- Information
 - family economic, 14, 54
 - family social/cultural, 14, 54
 - for implementation, providing, 48, 196
 - item of, 215
 - network distribution, 46, 188
 - sciences, see Computer and information sciences
 - services, 49, 197
 - synthesis, 34, 134
- Input device, computer, 22, 42, 86, 174
- Inservice training, 50, 200
- Inspection machine, film, see Film inspection/cleaning machine
- Institution, type of entered, see Type of school or institution entered
- Institutional role(s) and purpose(s), see Development of goals and policies about organizational/institutional role(s) and purpose(s)
- Instruction, 215
 - computer
 - assisted, 26, 104
 - based, 26, 104
 - developed, 26, 105
 - managed, 26, 105
 - correspondence, 214
 - general techniques of, 25, 100
 - home, 26, 104
 - hospital, 26, 104
 - mediated, 217
 - mediated self-, 26, 106
 - programed, 25, 102
 - radio, 26, 105
 - remote, 26, 106
 - resource-based techniques of, 25, 103
 - telephone, 26, 105
 - telephone school-home, 219
 - television, 26, 105
 - topic of, 219
 - unit of, 219
 - compatibility of, with institution, 44, 183
 - research on, 34, 134
 - social acceptance of, 44, 182
 - units of, aspects of, 44, 182
- Instructional
 - areas, 27, 108
 - development, 215
 - goal identification, 35, 139
 - grouping, see Type of class or instructional grouping level, 215
 - management functions, see Instructional management functions
 - materials center, see General learning resources space
 - product, 215
 - sequence, specification of, 36, 143
 - system, 218
 - spaces, 27, 108
 - regular, 27, 108
 - special, 27, 108
 - support areas, 28, 114
 - television fixed-service distribution, 46, 188
 - television programing, 26, 105
- Instructional management functions, 5, 6, 7, 47, 193
 - development of goals/policies about, 48, 194
- Intellectual reasons, referrals for, see Referrals for learning activities, or for intellectual, social, or emotional reasons
- Intelligent terminal, 215
- Interchangeable, camera lens, 23, 40, 41, 92, 160, 166, 171
- Interdisciplinary studies, 30, 126

Interests and plans, postinstitutional, 16, 63

Internal coordination, 49, 198

Interorganizational/interinstitutional coordination, 49, 198

Intrainstitutional
delivery, 46, 189
maintenance, 46, 189

Item of information, 215

ITPS, see Instructional Television Fixed-Service Distribution

J

Job classification and activity assignment accounting, personnel, 50, 201

Junior ROTC, 30, 123

K

Kindergarten room, 27, 110

Kit, multimedia, 19, 74

Kits, 19, 74

L

Laboratory
computer, 27, 110
curriculum, 28, 114
experience, 25, 103
language, 215
mathematics, 27, 110
media-based instructional, 27, 110
science, 28, 110

Laminating, 38, 149
supplies, see Mounting/laminating supplies

Laminator, 22, 38, 88, 152

Language
arts, see English language arts
considerations, 14, 53
laboratory, 215

speech and, 14, 55

Languages; foreign
subject-matter area in elementary, secondary, and
associate-level education 29, 117
subject-matter area in higher education, 30, 123

Lantern slide projector, 24, 96

Large group, 47, 192

Law, 36, 125

Laying out, 38, 149

Learner, 5, 6, 13, 51
analysis, 36, 139
assessment
provision for, 36, 142
referent of, 36, 142
stage of, 36, 142
aspects of items under evaluation, 43, 177
compatibility with
aspects of content evaluation, 44, 181
aspects of materials evaluation, 43, 177
aspects of settings evaluation, 44, 180
aspects of techniques evaluation, 44, 180
aspects of a unit of instruction evaluation, 44, 182
individual, 47, 192
number, 14, 53
performance gains, 43, 177
performance, mark or report for, 15, 62
progress, see Monitoring learner progress
research on, 34, 134
response, see Facilitation of learner response
selection of objectives for, 47, 190

Learners
development of goals and policies about, 48, 194
slow, 15, 58
with specific learning disabilities, 15, 59

Learning
activities, 216
location of, 15, 60
assessment of, 47, 193
contract, 216
deficiencies, remediation of, 47, 193
disabilities, learners with specific, 15, 59
most effective styles of, 15, 59
objectives, see Learning objectives

- Learning—Continued
 - package, 19, 74
 - performance, 15, 61
 - principles stage, 35, 136
 - research, stages of learning/instruction, 34, 136
 - resources center, see General learning resources space
 - resources, 5, 6, 16, 63, 204
 - resources development functions, 5, 6, 132
 - stage, human, 35, 137
 - task analysis, 35, 139
- Learning objectives
 - compatibility with
 - aspects of materials evaluation, 43, 178
 - aspects of techniques evaluation, 44, 180
 - specification of, 35, 139
- Learning Resources, 5, 6, 16, 63, 204
 - acquisition of, 46, 185
 - aspects of, under evaluation, 43, 177
 - compatibility with other
 - aspects of content evaluation, 44, 182
 - aspects of device evaluation, 44, 180
 - aspects of materials evaluation, 43, 178
 - aspects of settings evaluation, 44, 181
 - aspects of techniques evaluation, 44, 180
 - development of goals and policies on, 48, 194
 - distribution of, 46, 187
 - housing of, 46, 185
 - maintenance of, 46, 189
 - processing of, 46, 185
 - research on, 34, 133
 - scheduling of, 46, 185
 - spaces, 28, 111
 - general, 28, 111
 - special, 28, 111
- Learning resources development functions, 5, 6, 132
 - development of policies on, 48, 196
- Lecture, 25, 102
- Legal services, 49, 197
- Lens
 - camera, interchangeable, 23, 92
 - plus, 217
- Lesson testing, computer-assisted instruction, 42, 173
- Lettering, 38, 149
 - device
 - mechanical, 22, 38, 87, 151
 - photographic, 22, 38, 87, 151
- Letters, 30, 125
- Level
 - instructional, 215
 - of performance, 216
- Library, 216
 - branch, see Satellite center
 - science, 30, 125
- Life
 - shelf, 43, 177
 - use
 - aspects of devices evaluation, 44, 179
 - aspects of materials evaluation, 43, 177
- Light box, 22, 38, 88, 152
- Light table, see Light box
- Lighting
 - aspects of settings under evaluation, 44, 181
 - equipment, 23, 40, 41, 92, 161, 166
 - motion picture, 40, 163
 - still photography, 39, 158
 - television, 41, 168
- Limitation on institutional activities, 15, 57
- Listening, 25, 102
 - center, 22, 85
- Listing, computer-assisted instruction, 42, 173
- Literature review
 - theory testing, 34, 135
 - sources of evaluation, 45, 184
- Local delivery, 46, 189
- Location
 - of instructional support, 15, 60
 - of learning activities, 15, 60
 - remote, 28, 39, 40, 41, 116, 162, 167, 171
- Logistics, 5, 7, 45, 185
- Longitudinal research, 35, 138
- Loop, 216
- Loudspeaker, 22, 39, 40, 85, 156, 166

M

Machine

- drafting, 22, 38, 87, 152
- enlarging-reducing, see Image modification device
- film inspection/cleaning, 24, 98
- processing, see Photographic processor
- readable data file, 216
- teaching, 24, 97

Magnetic

- board, 24, 99
- disk, 216
- drum, 216
- film, unrecorded, 20, 40, 75, 164
- tape, 216
- tape, computer
 - recorded, 18, 68
 - unrecorded, 20, 42, 76, 173

Magnified materials, see Projected and magnified materials

Maintenance

- and repair shop, 28, 115
- by manufacturer, 46, 190
- by repair service, 46, 190
- cost of
 - aspects of devices evaluation, 43, 178
 - aspects of materials evaluation, 43, 177
 - aspects of settings evaluation, 44, 180
- intrainstitutional, 46, 189
- of learning resources, 46, 189
- of management services, 49, 197

Maker, sign, 22, 38, 87, 151

Maladjusted, socially, 15, 59

Management

- analyst assignment, educational, 32, 130
- development of policies about instructional functions, 48, 196
- personnel, see Personnel management
- services, maintenance of, 49, 197
- services, property, 49, 197

Manipulative and tactile activity, 25, 102

Manufacturer, maintenance by, 46, 190

Map, 19, 72

Mark or report for learner performance, 15, 62

Mark sensing form, 20, 76

Material/device-based techniques, 26, 104

Materials, 5, 6, 17, 66

- aspects of, under evaluation, 43, 177
- audio, see Audiorecordings
- computer, recorded, 18, 67
- electronic display, recorded, 18, 68
- magnified, see Projected and magnified
- nonprint, 217
- pictorial, see Printed and pictorial
- print, 217
- printed and pictorial, 19, 71
- projected and magnified, 18, 69
- recorded, 18, 66
- stages of evaluation in the development of, 45, 183
- three-dimensional, 19, 73

Material, simulation, 19, 73

Mathematics

- laboratory, 27, 110
- subject-matter area in elementary, secondary, and associate level education, 29, 117
- subject-matter area in higher education, 30, 123

Measure, 216

Measurement

- criterion-referenced, 36, 142
- domain-referenced, 36, 142
- norm-referenced, 36, 142

Mechanical lettering device, 22, 38, 87, 151

Media

- center, 216
- center, branch, see Satellite center
- educational, 214
- maintenance, technical assignment, 32, 131
- management assignment, 32, 129
- production assignment, 32, 129
- production technician assignment, 32, 131
- research classification, 216
- technical assignment, 32, 131

Media-based instructional laboratory, 27, 110

Mediamobile, 28, 112

- Mediated
 - instruction, 217
 - self-instruction, 26, 106
- Medical history, 14, 56
- Medium of teacher-learner communication, principal, 15, 60
- Mental
 - characteristics, special, and psychological, 15, 58
 - tests
 - and inventories, mental, psychological, and proficiency, 15, 57
 - results and related learner characteristics, psychological, and proficiency, 15, 57
- Mentally retarded, 15, 58
- Meter, exposure, 23, 40, 41, 92, 160, 166, 171
- Meter, light, see Exposure meter
- Method, audiolingual, 213
- Methods of research, 35, 137
- Microfiche, 18, 69
- Microfilm, 217
 - computer output, 214
 - reel, 18, 69
- Microfilmer, computer output, 214
- Microform, 18, 69
 - camera, 23, 92
 - reader, 24, 97
 - reader/printer, 24, 98
- Micro-opaque, 18, 69
- Micropaper, 217
- Microphone, 22, 39, 41, 85, 166
- Microprint, 217
- Microprojector, 24, 97
- Microscope slide, 18, 70
- Military sciences, 30, 126
- Minor/adult status, 14, 53
- Mixer, audio, 22, 39, 40, 84, 156, 165
- Mobile
 - studio, 28, 41, 115, 167, 171
 - van, see mobile studio
- Mockup, 19, 73
- Model, 19, 73
- Modeling and imitation, 25, 102
- Modification
 - device, image, 22, 38, 88, 152
 - of resource, 47, 192
 - special program, 15, 61
- Monitoring of learner progress, 47, 193
- Monitor, television, 23, 41, 90, 170
- Monophonic, 217
- Most effective styles of learning, 15, 59
- Motion picture
 - camera, 23, 41, 91, 166
 - directing, 40, 163
 - editing, 40, 163
 - editor, 23, 41, 93, 167
 - 8mm, 19, 71
 - film
 - 8mm, 20, 40, 79, 164
 - 16mm, 20, 40, 79, 164
 - super/single 8mm, 20, 40, 79, 164
 - lighting, 40, 163
 - processor, 23, 93
 - producing, 40, 163
 - production, 40, 163
 - activities, 40, 163
 - equipment, 40, 165
 - sites, 41, 167
 - supplies, 40, 164
 - projector, 24, 98
 - dual 8mm, 24, 98
 - 8mm, 24, 98
 - 16mm, 24, 98
 - super 8mm, 24, 98

INDEX

Motion picture—Continued

- 16mm, 19, 71
- script writing, 40, 163
- sound recording, 40, 163
- studio, 28, 41, 115, 167
- super 8mm, 19, 71

Mounting/laminating supplies, 20, 38, 78, 150

Multimedia kit, 19, 74

Multipurpose room, 28, 113

Museum, 28, 114

Music, 29, 120
room, 28, 110

N

Name, 14, 53

Natural

resources, see Agriculture and natural resources
sciences, 30, 120

Needs Assessment, 36, 139

Network

distribution, information, 46, 188
remote access, 23, 91

Neurological condition, 14, 55

Nonentrance, 15, 61

Noninstitutional performance, 16, 62

Nonprint materials, 217

Norm-referenced measurement, 36, 143

Number, learner, 14, 53

O

Objectives

affective, 36, 141
cognitive, 36, 141
domain of, 36, 141
enabling, 36, 141
performance, 217

prerequisite, 36, 141
psychomotor, 36, 141
selection of, for learner, 47, 190
specification of learning, 36, 139
stage of, 36, 142
terminal, 36, 141

Observation

directed, 25, 100
personal, 45, 184

Obscure, 44, 179

Occupant, safety, 44, 181

Occupations

education, health, 29, 119
office, 30, 121
trade and industrial, 30, 122

Office occupations, 30, 121

Office/clerical assignment, 32, 132

Official/administrative assignment, 31, 127

Offset

press, 22, 38, 87, 151
printing, 38, 148
printing supplies, 20, 38, 78, 150

Opaque projector, 24, 97

Open

classroom, 25, 103
corridor, 25, 103
stack reading room, 28, 112

Operating, television camera, 41, 168

Operation

cost of, 44, 178
ease of, 44, 178

Opinion, expert, 45, 184

Organization management, 5, 7, 48, 194

Orientation, see Preservice training/orientation

Orthopedic condition, 14, 55

Out, laying, 38, 149

Output

- device, computer, 22, 42, 86, 174
- form, computer, 20, 76
- microfilm, computer, 214
- microfilmer, computer, 214

Overhead

- projector, 24, 97
- transparency, 19, 71

P

Pacing, determination of, 47, 192

Package, learning, 19, 74

Paper, photographic, 20, 39, 79, 159

Paraprofessional, 217

Parents, 14, 54

Part-time status, *see* Full-time/part-time status

Peer

- teaching, 26, 106
- tutoring, 26, 107

Perception, problem, 34, 134

Performance, 15, 61

- course information, learning performance, 15, 62
- gains, learner performance, 43, 177
- learning, 15, 61
- level of, 216
- noninstitutional, 16, 63
- objective, 217
- postinstitutional, 16, 63
- standards, 217

Periodical, 19, 73

People-based techniques, 26, 106

Personal

- and health information, accounting, personnel, 50, 201
- identification, 14, 53
- observation, 45, 184

Personnel

- accounting, 50, 201

assignment, 32, 130

- career development accounting, 50, 202
- conditions of current assignment, 50, 201
- current employment accounting, 50, 201
- development, 50, 200
- education and experience accounting, 50, 201
- employment, 50, 198
- function and program assignment accounting, 50, 201
- job classification and activity assignment accounting, 50, 201
- management, *see* Personnel management
- personal and health information accounting, 50, 201
- placement, 50, 200
- recruitment, 50, 200
- selection, 50, 200
- separation, 50, 200
- separation accounting, 50, 202
- subject-matter area accounting, 50, 201

Personnel management, 5, 7, 47, 198

Phonodisc, *see* Audiodisc

Phonorecord, *see* Audiodisc

Photograph, 19, 72

Photographic

- chemicals, 20, 39, 79, 159
- copying, 39, 158
- devices, 23, 91
- film, still, 20, 79
- lettering device, 22, 38, 87, 152
- lighting, 39, 158
- paper, 20, 39, 79, 159
- printing, 39, 159
- processor, 23, 40, 93, 161
- processing, 39, 159
- production, *see* Still photographic production
- script writing, 39, 158
- supplies, 20, 78
- studio, 28, 40, 115, 162

Photographing, 39, 158

Physical

- and/or health handicap, 14, 56
- anomalies and cosmetic conditions of potential emotional significance, 14, 56
- conditions, *see* Sensory, physical, and related conditions
- conditions, referrals for, *see* Referrals for physical, health, sensory, and related conditions
- conditions, related, 14, 56

Physical—Continued

- development, history of, 14, 55
- display, see Physical displays
- education, see Physical education
- examination, 14, 56
- health and sensory impairments, 15, 56
- health, sensory, and related conditions, 14, 55

Physical display, 24, 99**Physical education, see Health and safety in daily living, physical education and recreation****Physical sciences, 30, 126****Pictorial materials, see Printed/pictorial materials****Picture, 19, 72**

- motion, see Motion picture

Placement, personnel, 50, 200**Planetarium, 28, 114****Planning for implementation, 48, 196****Plans, postinstitutional, see Postinstitutional interests and plans****Playback unit, see Audiotape player****Player**

- audiodisc, 22, 39, 83, 155
- audiotape, 21, 39, 83, 155
 - cartridge, 21, 83
 - cassette, 21, 83
 - reel, 21, 83
- cartridge, see Audiotape player, cartridge
- cassette, see Audiotape player, cassette
- record, see Audiodisc player
- videotape, see Videoplayer

Plus lens, 217**Policies**

- development of goals and, 48, 194
 - about instructional management functions, 48, 196
 - about instructional programs, 48, 196
 - about learners, 48, 196
 - about learning resources, 48, 194
 - about learning resources development functions, 48, 196

- about organizational/institutional role(s) and purpose(s), 48, 194
- about units of instruction, 48, 194
- implementation of goals and, 48, 196

Portability, 44, 179**Postinstitutional**

- education and training information, 16, 63
- interests and plans, 16, 63
- performance, 16, 62

Posttest, 36, 142**Practice, 25, 102****Preparation for the use of the resource, 47, 192****Prerequisite objectives, 36, 141****Presentation format, selection of, 36, 143****Presentation of the resource, 47, 193****Presentation programing, 39, 159****Preservice training/orientation, 50, 200****Press**

- dry mount, 22, 38, 88, 152
- offset, 22, 38, 87, 151

Pretest, 36, 142**Principal medium of teacher-learner communication, 15, 60****Principles stage, see Learning principles stage****Print**

- art, 19, 72
- materials, 217
- shop, 28, 38, 115, 153
- study, 19, 72

Printed/pictorial materials, 19, 71**Printer, diazo, 22, 38, 86, 151****Printing**

- offset, 38, 148
- supplies, 20, 38, 78, 150
- photographic, 39, 158

- Printout, computer, 18, 67
- Private or nonpublic school, 217
- Problem
 definition, 34, 134
 perception, 34, 134
 solving, 25, 102
- Process of research, 34, 133
- Processing
 data, 214
 machine, see Photographic processor; Motion picture processor
 of learning resources, 46, 185
 photographic, 39, 159
- Processor
 film, see Photographic processor
 motion picture, 23, 41, 93, 167
 photographic, 23, 40, 93, 161
- Producing
 audio/radio, 38, 153
 motion picture, 40, 163
 photographic, 39, 158
 television, 41, 168
- Product, instructional, 215
- Production, 5, 7, 32, 132
 area, graphic, 28, 38, 115, 153
 assignment, media, 32, 129
 audio/radio, 38, 153
 activities, 38, 153
 equipment, 39, 155
 sites, 39, 157
 supplies, 39, 154
 computer-assisted instruction, 42, 172
 activities, 42, 172
 equipment, 42, 174
 sites, 42, 175
 supplies, 42, 173
 graphic production and reproduction, 37, 144
 activities, 37, 144
 equipment, 38, 151
 sites, 38, 152
 supplies, 38, 149
 motion picture, 40, 163
 activities, 40, 163
 equipment, 40, 165
 sites, 41, 167
 supplies, 40, 164
 still photography, 39, 158
 activities, 39, 158
 equipment, 39, 159
 sites, 40, 162
 supplies, 39, 159
 technician assignment, media, 32, 131
 television, 41, 168
 activities, 41, 168
 equipment, 41, 169
 sites, 41, 171
 supplies, 41, 169
- Professional, 217
- Professional/specialist assignment, 31, 129
- Professions, health, 39, 125
- Proficiency
 test, 217
 tests and inventories, mental, psychological, 15, 57
 test results
 related learner characteristics, mental, psychological, and, 15, 58
- Program
 computer, 18, 68
 modification, special, 15, 61
 of studies, 15, 61
 planning assignment, educational, 32, 130
 type of, entered, 15, 60
- Programed instruction, 25, 102
- Programmer, projection/sound, 24, 40, 97, 162
- Programing
 educational television, 26, 105
 instructional television, 26, 105
 presentation, 39, 159
- Programs
 and activities, coordination of, 49, 198
 compatibility of unit of instruction with other, 44, 182
- Progress, 15, 62
 learner, see Monitoring learner progress

Project, 25, 103

Projected and magnified
display devices, 23, 94
materials, 18, 69

Projection room, 28, 115

Projection/sound programmer, 24, 40, 97, 162

Projector

audioaide, 24, 96
dissolve control, 24, 40, 97, 161
filmstrip, 23, 94
 filmstrip/slide, 23, 94
 silent, 23, 94
 sound audiodisc, 23, 94
 sound cassette, 23, 94
microprojector, 24, 97
motion picture, 24, 98
 dual 8mm, 24, 98
 8mm, 24, 98
 16mm, 24, 98
 super 8mm, 24, 98
opaque, 24, 97
overhead, 24, 97
slide, 24, 95
 lantern, 24, 96
 random access, 24, 95
 silent, 24, 95
 slide/filmstrip, 24, 95
 sound cartridge, 24, 95
 sound cassette, 24, 95
telebeam, see Television projector
television, 23, 91
television beam, see Television projector

Property management services, 49, 197

Prototype

instructional, 217
stage, 35, 137

Providing information for implementation, 48, 196

Provision for learner assessment, 36, 142

Provision for electronic delivery, 44, 181

Psychological

characteristics, special, see Special mental and psychological characteristics

test results and related learner characteristics—see Mental, psychological, and proficiency test results and related learner characteristics

tests and inventories, see Mental, psychological, and proficiency tests and inventories

Psychology, 30, 126

Psychomotor objectives, 36, 141

Public

affairs and services, 30, 126
radio distribution, 46, 188
school, 218
television distribution, 46, 187

Punched, computer card, 18, 67

Pure research, 34, 136

Purposes of evaluation, 44, 183

Q

R

Racial/ethnic group, 14, 53

Radio

distribution, 46, 188
 commercial, 46, 188
 public, 46, 188
instruction, 26, 105
production, see Audio/radio production
receiver, 22, 85
studio, 28, 39, 116, 157

Random access slide projector, 24, 95

Reader, microform, 24, 97

Reader/printer, microform, 24, 98

Reading room, open stack, 28, 112

Realia, 19, 74

Receiver

radio, 22, 85
television, 23, 90

Recitation, 25, 103

Recognition for completion, 15, 62

Record, *see* Audiodisc

Record, phonograph, *see* Audiodisc

Record player, *see* Audiodisc player

Recorded

audiocard, 18, 66

audiopage, 18, 67

audiotape, 18, 66

cartridge, 18, 67

cassette, 18, 66

reel, 18, 66

computer magnetic tape, 18, 68

computer materials, 18, 67

dictation/transcription belt, 18, 67

electronic display materials, 18, 68

materials, 18, 66

videodisc, 18, 69

videotape, 18, 68

cartridge, 18, 68

cassette, 18, 68

reel, 18, 68

Recorder

audio, *see* Sound recorder

audiocard, 21, 39, 83, 155

audiopage, 22, 39, 83, 155

audiotape, 21, 39, 40, 80, 165

cartridge, 21, 83

cassette, 21, 80

magnetic film, 21, 40, 83, 165

reel, 21, 80

sound, 218

tape, *see* Audiotape recorder

videotape, 22, 41, 88, 170

cartridge, 22, 89

cassette, 22, 88

reel, 22, 88

Recording

sound, 39, 154

motion picture sound, 40, 163

sound, *see* Audiodisc

sound, *see* Sound studio

Records services, 49, 197

Recreation, *see* Health and safety in daily living, physical education, and recreation

Recruitment, personnel, 50, 200

Reducer, enlarger, *see* Image modification device

Reel

audiotape

recorded, 18, 66

unrecorded, 19, 75

audiotape duplicator, 22, 84

audiotape player, 21, 83

audiotape recorder, 21, 80

microfilm, 18, 69

videoplayer, 23, 89

videotape

recorded, 18, 68

unrecorded, 20, 77

videotape recorder, 22, 88

Reel-to-reel, *see* Audiotape reel, unrecorded

Referrals

for learning activities or for intellectual, social, or emotional reasons, 15, 57

for physical, health, sensory, and related conditions, 14, 56

Regional delivery, 46, 189

Regular instructional space, 27, 108

Relay

distribution, satellite, 46, 188

system, community antenna, 214

Remediation of learning deficiencies, 47, 193

Remote

access instruction, 26, 106

access network, 23, 91

location, 28, 39, 40, 41, 116, 157, 162, 167, 171

unit, *see* mobile studio

Repair

ease of, 44, 179

frequency of, 44, 179

service

availability of, 44, 179

maintenance by, 46, 190

shop, *see* Maintenance and repair shop

time for, 44, 179

Replacement parts, availability of, 44, 179

INDEX

- Report, see Mark of report for learner performance
- Reportage, research, 34, 136
- Reproduction
 devices, see Graphic and reproduction devices
 graphic production and, 37, 144
 materials, see Graphic and reproduction materials
- Research, 5, 7, 34, 132
 action, 35, 138
 applied, 35, 137
 assignment, 32, 129
 case and field, 35, 138
 causal-comparative, 35, 138
 classification, media, 216
 correlational, 35, 138
 descriptive, 35, 138
 design selection, 34, 135
 experimental, 35, 138
 historical, 35, 137
 longitudinal, 35, 138
 methods of, 35, 137
 on learner, 34, 134
 on learning resources, 34, 134
 on unit of instruction, 34, 134
 process of, 34, 134
 pure, 34, 136
 reportage, 34, 136
 resources selection, 34, 135
 sample selection, 34, 135
 stages of learning/instruction, 34, 136
 subject of, 34, 134
- Residence
 data, 14, 55
 family and, 14, 54
- Resistance, tamper, 44, 179
- Resource, modification of, 47, 192
- Resource-based techniques of instruction, 25, 103
- Resources
 learning, see Learning Resources
 selection of, 47, 190
 selection, research, 34, 135
- Response, facilitation of learner, 47, 193
- Responsible adult of the domicile, 14, 54
- Responsibility, family, 14, 53
- Retarded, mentally, 15, 58
- Retention test, 36, 142
- Review, literature
 aspect of theory testing, 34, 135
 source of evaluation, 45, 184
- Room
 audio control, 28, 39, 114, 157
 business education, 27, 108
 equipment, 28, 115
 home economics, 27, 110
 kindergarten, 27, 110
 multipurpose, 28, 113
 music, 28, 110
 open stack reading, 28, 112
 projection, 28, 115
 shop, 28, 111
 television control, 28, 41, 116, 172
- Rotary stencil
 duplication, 38, 148
 duplicator, 22, 38, 87, 151
 supplies, 20, 38, 78, 150
- ROTC, junior, 30, 123
- 8
- Safety
 and driver education, 30, 123
 health and, see Health and safety in daily living,
 physical education, and recreation
 occupant, 44, 181
 of use, 44, 179
- Sample selection research, 34, 135
- Satellite
 center, 28, 112
 relay distribution, 46, 188
- Scheduling of learning resources, 46, 185
- School
 private or nonpublic, 217
 public, 218
 type of entered, see Type of school or institution
 entered

- Science laboratory, 28, 110
- Sciences
 biological, 30, 124
 military, 30, 126
 natural, 30, 120
 physical, 30, 126
 social, 30, 126
 social and social studies, see Social sciences/social studies
- Screen, 24, 99
- Script writing,
 audio/radio, 38, 153
 motion picture, 40, 163
 photographic, 39, 158
 television, 41, 168
- Secondary education
 general, see General elementary education and general secondary education
 subject-matter areas, see Subject-matter areas for elementary, secondary, and postsecondary education
- Secretarial training room, see Business education room
- Selection
 of objectives for learner, 47, 190
 of presentation format, 36, 143
 of resources, 47, 190
 personnel, 50, 200
 research design, 34, 135
 research sample, 34, 135
- Self-instruction, mediated, 26, 106
- Seminar, 26, 106
- Sensing form, mark, 20, 76
- Sensory
 conditions, see Physical, sensory, and related conditions
 sensory, physical and related, 14, 56
 conditions, referrals for, see Referrals for physical, health, sensory, and related conditions
 impairments, see Physical, health, and sensory impairments
- Separation
 accounting, personnel, 50, 202
 personnel, 50, 200
- Sequence, 218
 specification of instructional, 36, 143
- Sequencing, computer-assisted instruction, 42, 172
- Serial, 19, 72
- Seriously emotionally disturbed, 15, 59
- Service, maintenance by repair, 46, 190
- Services
 fiscal, 49, 197
 legal, 49, 197
 maintenance of management, 49, 197
 property management, 49, 197
 public affairs and, 30, 126
 records, 49, 197
- Setting, analysis, 36, 139
- Setting-based techniques, 25, 103
- Settings, 5, 6, 26, 108
 aspects of, under evaluation, 44, 180
- Sex, 14, 53
- Shelf life, 43, 177
- Shop
 maintenance and repair, 28, 115
 print, 28, 38, 115, 153
 room, 28, 111
- Shopwork, 25, 103
- Signmaker, 22, 38, 87, 151
- Silent
 filmstrip, 23, 94
 filmstrip projector, 18, 70
 filmstrip viewer, 24, 94
 slide projector, 24, 95
 slide viewer, 24, 96

Simulation, 25, 103
 computer, 26, 105
 material, 19, 73

Single sound system, 218

Sisters, see Brothers and sisters living in the household

16mm

motion picture, 19, 71
 motion picture projector, 24, 98

Size, determination of group, 47, 192

Skills, 218

Slide, 19, 70

duplicator, 23, 40, 93, 161
 microscope, 18, 70
 projector, 24, 95
 filmstrip/slide, 23, 94
 lantern, 24, 96
 random access, 24, 95
 silent, 24, 95
 slide/filmstrip, 24, 95
 sound cartridge, 24, 95
 sound cassette, 24, 95
 slide/audiotape, 19, 70
 viewer, 24, 96
 silent, 24, 96
 sound cartridge, 24, 96
 sound cassette, 24, 96

Slow

learners, 15, 58
 scan television device, 23, 90

Small group, 47, 192

Social

acceptance of content, 44, 182
 information, see Family social/cultural information
 reasons, referrals for, see Referrals for learning activities or for intellectual, social, or emotional reasons
 sciences/social studies, 30, 121
 studies, see Social sciences/social studies

Socially maladjusted, 15, 59

Sociocultural dialect, English, 214

Software, 218

Solving, problem, 25, 102

Sound

(See also terms beginning with "audio.")

double system, 214
 filmstrip, 18, 70
 filmstrip projector
 audiodisc, 23, 94
 cassette, 23, 94
 filmstrip viewer
 audiodisc, 24, 95
 cartridge, 24, 94
 cassette, 24, 95
 four channel, 215
 recorder, 218
 recording, see Audiodisc, Audiorecording, Audiotape
 recording, audio/radio, 39, 154
 recording, motion picture, 40, 163
 single system, 218
 slide projector
 cartridge, 24, 95
 cassette, 24, 95
 slide viewer
 cartridge, 24, 96
 cassette, 24, 96
 studio, 28, 39, 116, 157
 synchronizer, 24, 40, 97, 161
 system, single, 218

Sources of evaluation, 45, 184

Space

demonstration, 28, 113
 for exceptional children, special instructional, 28, 111

Spaces

general use, 28, 112
 instructional, 27, 108
 regular, 27, 108
 special, 27, 108
 learning resources, 28, 111
 formal, 28, 111
 special, 28, 111
 special use, 28, 113

Speaker, see Loudspeaker

Special

assistance and tuition, 16, 63

Special—Continued

- instructional space for exceptional children, 28, 111
- instructional spaces, 27, 108
- learning resources spaces, 28, 111
- mental and psychological characteristics, 15, 58
- program modification, 15, 61
- use spaces, 28, 113

Specialist assignment, *see* Professional/specialist assignment

Specification

- of instructional sequence, 36, 143
- of learning objectives, 36, 139

Specifications, statement of design, 36, 143

Specimen, 218

Speech and language, 14, 55

Spirit

- duplication, 38, 148
- duplication supplies, 20, 38, 78, 150
- duplicator, 22, 38, 86, 151

Staff, 5, 6, 31, 127

- development assignment, 32, 130

Stage

- adoption, 35, 137
- animal/autonomic learning, 34, 136
- developmental, 35, 137
- human learning, 35, 137
- learning principles, 35, 136
- of learner assessment, 36, 142
- of learning objectives, 36, 139
- prototype, 35, 137

Stages

- of evaluation in the development of materials, 45, 184
- of learning/instruction research, 34, 136

Stand, animation, 23, 41, 93, 167

Standard American English, 215

Standards, performance, 217

Statement of design specifications, 36, 143

Station, field test, 28, 113

Status

- citizenship, 14, 53
- day/evening, 15, 61
- full-time/part-time, 15, 60
- minor/adult, 14, 53
- veteran benefit, 14, 54

Stencil duplicator, *see* Rotary stencil duplicator

Stencil, rotary

- duplication, 38, 148
- duplicator, 22, 38, 87, 151
- supplies, 20, 38, 78, 150

Stereograph, 19, 71

Stereophonic, 218

Stereoscope, 24, 97

Still photographic

- camera, 23, 40, 91, 160
- film, 20, 39, 79, 159

Still photography

- producing, 39, 158
- production, 39, 158
 - activities, 39, 158
 - equipment, 40, 160
 - supplies, 39, 159
 - sites, 40, 162

Storyboard, 218

Studies

- area, 30, 124
- interdisciplinary, 30, 126
- program of, 15, 61
- social, *see* Social sciences/social studies

Studio

- mobile, 28, 41, 115, 167, 171
- motion picture, 28, 41, 115, 167
- photographic, 28, 40, 115, 162
- radio, 28, 39, 116, 157
- recording, *see* Sound studio
- sound, 28, 39, 116, 157
- television, 28, 42, 116, 172

Study

- course of, 214
- independent, 26, 107
- print, 19, 72

Styles of learning, most effective, 15, 59

Subject, 218

matter, 218

matter area, 218

matter area accounting, personnel, 50, 201

matter areas

for elementary, secondary, and associate-level education, 29, 117

for higher education, 30, 123

matter related devices, 24, 99

of research, 34, 134

Summative testing, 218

Super 8mm

motion picture, 19, 71

motion picture projector, 24, 98

Supervision/directing assignment, 31, 127

Supplies, 19, 74

art and graphic art, 20, 38, 77, 149

audio/radio production, 39, 154

audiorecording, 19, 75

computer, 20, 76

computer-assisted instruction production, 42, 173

diaz, 20, 38, 77, 150

electronic display, 20, 76

electrostatic copy, 20, 38, 78, 150

graphic and reproduction, 20, 77

graphic production and reproduction, 38, 149

motion picture production, 40, 164

mounting/laminating, 20, 38, 78, 150

offset printing, 20, 38, 78, 150

photographic, 20, 78

rotary stencil, 20, 38, 78, 150

spirit duplication, 20, 38, 78, 150

still photography, 39, 159

television production, 41, 169

thermal copy, 20, 38, 77, 150

wet process, 20, 38, 78, 150

Support, camera, 23, 40, 41, 92, 161, 166

Survey, user, 45, 184

Switcher, television, 23, 41, 90, 171

Switching system, 23, 91

Synchronizer, sound, 24, 40, 97, 161

Synthesis, information, 34, 134

System, 218

administrative assignment, 31, 127

antenna, 23, 90

community antenna relay, 214

double sound, 214

instructional, 215

single sound, 218

switching, 23, 91

Systems approach, 218

T

Table

drawing, see Drawing board/table

light, see Light box

Tactile activity, see Manipulative and tactile activity

Talented and gifted, 15, 58

Talking book, 18, 67

Tamper resistance, 44, 179

Tape

audio, see Audiotape

blank, see Audiotape, unrecorded; computer magnetic

tape unrecorded; videotape, unrecorded

computer, magnetic

recorded, 18, 68

unrecorded, 20, 42, 76, 173

magnetic, 216

player, see Audiotape player; videoplayer

recorder, see Audiotape recorder; videotape recorder

slide/tape, see Slide/audiotape

Target audience, 218

Task analysis, learning, 36, 139

Teacher/learner communication, principal medium of, 15, 60

Teaching, 218

assignment, 32, 130

assistant assignment, 32, 131

cross-age, 26, 106

machine, 24, 97

peer, 26, 106

- Teaching—Continued
 skills center, see Curriculum laboratory team, 26, 106
- Team teaching, 26, 106
- Technical
 assignment, 32, 131
 computer, 32, 131
 media, 32, 131
 media maintenance, 32, 131
 education, 30, 121
 quality, 43, 177
- Technician, 219
 assignment, media production, 32, 131
- Techniques, 5, 6, 25, 100
 aspects of under evaluation, 44, 180
 material/device-based, 26, 104
 of instruction
 general, 25, 100
 resource-based, 25, 103
 people-based, 26, 106
 setting-based, 25, 103
- Technology, educational
 components of, 5
 statement of definition, 5
- Telebeam projector, see Television projector
- Teleclass, 219
- Telelecture, 219
- Telephone
 instruction, 26, 105
 school-home instruction, 219
- Telewriting, 219
- Televised instruction, see Television instruction
- Television
 beam projector, see Television projector
 CATV, see Community antenna television distribution
 camera, 23, 41, 89, 170
 camera, operating, 41, 168
 camera support, 23, 41, 90, 170
 CCTV, see Closed-circuit television distribution
 console, 23, 41, 90, 170
 control room, 28, 41, 116, 172
 device, slow scan, 23, 90
 directing, 41, 168
 distribution, 46, 187
 closed-circuit, 46, 187
 commercial, 46, 187
 community antenna, 46, 187
 instructional television fixed-service, 46, 188
 public, 46, 187
 engineering, 41, 168
 ETV, see Educational television programing
 instruction, 26, 105
 ITFS, see Instructional television fixed-service distribution
 ITV, see Instructional television programing
 lighting, 41, 168
 monitor, 23, 41, 90, 170
 producing, 41, 168
 production, 41, 168
 activities, 41, 168
 equipment, 41, 169
 sites, 41, 171
 supplies, 41, 169
 programing
 educational television programing, 26, 105
 instructional television programing, 26, 105
 projector, 23, 91
 receiver, 23, 90
 script writing, 41, 168
 slow scan, see Slow scan television device
 studio, 28, 42, 116, 172
 switcher, 23, 41, 90, 171
- Telewriter, 23, 91
- Terminal
 computer, 22, 42, 86, 174
 intelligent, 215
 objectives, 36, 141
- Test
 administration, form of, 15, 57
 identification, 15, 57
 proficiency, 217
 results and related learner characteristics, See Mental, psychological, and proficiency test results and related learner characteristics
 tests and inventories, see Mental, psychological, and proficiency tests and inventories
 retention, 36, 142

Testing

- controlled, 45, 184
- developmental, 45, 184
- field, 45, 184
- formative, 215
- summative, 218
- theory, 34, 135
- validation, 45, 184

Theology, 30, 126

Theory

- construction, 34, 134
- testing, 34, 135

Thermal

- copier, 22, 38, 87, 151
- copying, 37, 144
- copy supplies, 20, 38, 77, 150

Three-dimensional materials, 19, 73

Time for repair, 44, 179

Title, 219

Topic of instruction, 219

Toy, educational, 19, 74

Trade and industrial occupations, 30, 122

Training, 219

- information, postinstitutional, see Postinstitutional education and training information
- inservice, 50, 200
- preservice, see Preservice training/orientation

Transcriber, audio, 22, 39, 84, 156

Transcription belt, see Dictation/transcription belt, recorded

Transparency, overhead, 19, 71

Transportation, 16, 63

Treatment, experimental, 34, 135

Trip, field, 25, 104

Tuition information, see Special assistance and tuition information

Tutoring, 26, 107

- cross-age, 26, 107
- peer, 26, 107

2500 megahertz service, see Instructional television fixed-service distribution

Type

- of class or instructional grouping, 15, 60
- of program entered, 15, 60
- of school or institution entered, 15, 60

Typing room, see Business education room

U

Ultrafiche, 20, 69

Ultramicrofiche, see Ultrafiche

Underachievers, 15, 58

Unit

- administrative assignment, 31, 127
- of instruction
 - aspects of under evaluation, 44, 182
 - research on, 34, 134
- playback, see Audiotape player
- remote, see Remote studio

Units of value, see Credits (units of value)

Unpunched, computer card, 20, 76

Unrecorded

- audiocard, 19, 39, 75, 154
- audiopage, 20, 39, 75, 155
- audiotape, 19, 39, 40, 75, 155, 164
 - cartridge, 19, 75
 - cassette, 19, 75
 - reel, 19, 75
- magnetic film, 20, 40, 75, 164
- computer magnetic tape, 20, 42, 76, 173
- videotape, 20, 41, 76, 169
 - cartridge, 20, 77
 - cassette, 20, 77
 - reel, 20, 27

User survey, 45, 184

Utilization, 5, 7, 47, 190

V

Validation testing, 45, 184

Van, mobile, see Mobile studio

Veteran benefit status, 14, 54

Videocartidge, see Videotape cartridge, recorded

Videocassette, see Videotape cassette, recorded

Videodisc, recorded, 18, 69

Videoplayer, 23, 89

cartridge, 23, 89

cassette, 23, 89

reel, 23, 89

Videorecording, 41, 169

Videotape

blank, see Videotape cassette, unrecorded; videotape
reel, unrecorded

cartridge

recorded, 18, 68

unrecorded, 20, 77

cassette

recorded, 18, 68

unrecorded, 20, 77

duplicating, 38, 148

duplicator, 23, 89

editing, 41, 169

editor, 23, 89

player, see videoplayer

recorded, 18, 68

recorder, 22, 41, 88, 170

cartridge, 22, 89

cassette, 22, 88

reel, 22, 88

reel

recorded, 18, 68

unrecorded, 20, 77

Vision, 14, 55

Viewer

filmstrip, 24, 94

silent, 24, 94

sound audiodisc, 24, 95

sound cartridge, 24, 95

sound cassette, 24, 95

slide, 24, 96

silent, 24, 96

sound cartridge, 24, 96

sound cassette, 24, 96

VTR, see Videotape recorder

W

Wet process

copier, 22, 38, 87, 151

copying, 37, 144

copy supplies, 20, 38, 78, 150

Withdrawal, 15, 61

Work, group, 26, 107

Writing

frame, computer-assisted instruction, 42, 173

script

audio/radio, 38, 153

motion picture, 40, 163

photographic, 39, 158

television, 41, 168

X

Y

Year in school, see Grade entered or year in school

Z